



Ephedra

EPHEDRA

The Chinese have used this the Ephedra herb for over 5,000 years, particularly to treat asthma and reduce upper respiratory infections. The primary active ingredient of Ma Huang is ephedra. Pseudo-ephedrine is a chemical isomer that is similar to ephedra. Both ephedrine and ephedra

stimulate the sympathetic nervous system, causing vasoconstriction of the blood vessels in the lining of the nose. They also dilate the bronchial tubes and stimulates the heart. Benefits body building and endurance athletes by promoting thermogenesis (the burning of fat).

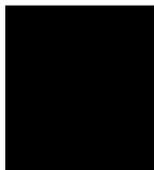
Ephedra has the ability to open up the adrenergic receptor sites (switches) found primarily in the heart and lungs, thereby increasing the metabolic rate and calorie consumption. The net results is release of fatty acids from stored fat cells and a quicker consumption of the fat into energy. When ephedra is combined with a modest amount of caffeine as found in green tea extract or Guarana, the thermogenic effects can be improved as much as 20% (optimum ratio of ephedra to caffeine is 20mg to 200mg taken 3 times a day). Ephedra also tends to increase the contractile strength of muscle fibers, which allows body builders to work harder and heavier.

Ancient Chinese physicians prescribed this herb for asthma, hay fever, nasal and chest congestion. Known for the sense of well being reported by its users. This herb tea has been used by health tonic, a natural stimulant and an appetite suppressant. Believed to be a powerful fat burner; weight watchers have noticed that it makes the body heat up and burn fat (this is known as the thermogenic effect).

MA HUANG (Ephedra sinensis) This plant contains ephedrine and pseudoephedrine which are used in over the counter medications for asthma (ephedrine) and as a nasal decongestant (pseudoephedrine). Ma huang is also sold as a stimulant and weight loss product. Like caffeinated beverages, ephedrine-containing products apparently can be consumed safely in moderate amounts by healthy people.

Ma huang is included in some diet formula where it functions as an appetite suppressant. Its mechanism of activity in this use is the same as the only FDA approved over the counter appetite suppressant, phenylpropanolamine (ppa). PPA lacks the central nervous stimulation exhibited by the Ephedra alkaloids but has the same contraindications and is subject to the same cautions. Ephedra contains both pseudoephedrine and ephedrine, collectively referred to as Ephedra alkaloids.

Most people have heard of the abuse of amphetamines as diet pills prescribed by doctors in the 1960's and '70's. Like amphetamines, Ephedra (ma huang), and the chemical compound ephedrine, can be dangerous if abused. While the cautions for ephedra and caffeine are similar, ephedra has greater cardiovascular activity than caffeine. Ephedra is often combined in diet or energy products with caffeine or a natural caffeine source such as kola nut, guarana, or tea. The combination of these two different types of stimulants can be especially powerful.



Ephedra, the substance is evidently one of the most dangerous of the so-called herbal or natural dietary supplements. It is touted as an ancient Chinese herb (known there as ma huang), with the implication that it has stood the tests of time.

FDA is warning consumers not to purchase or consume ephedrine-containing dietary supplements with labels that often portray the products as apparent alternatives to illegal street drugs such as "ecstasy." Possible adverse effects of ephedrine range from clinically significant effects such as heart attack, stroke, seizures, psychosis, and death, to clinically less significant effects that may indicate the potential for more serious effects (for example, dizziness, headache, gastrointestinal distress, irregular heartbeat, and heart palpitations). Ingredient panels on these products may list ma huang, Chinese ephedra, ma huang extract, ephedra, Ephedra sinica, ephedra extract, ephedra herb powder, or ephedronin, all of which indicate a source of ephedrine.

Because ephedrine alkaloids are heart and nervous system stimulants, certain individuals including those with hypertension, heart conditions and neurologic disorders, should avoid their use. Pregnant women, too, should avoid the use of dietary supplements with ephedrine alkaloids.

Reported adverse events range from episodes of high blood pressure, irregularities in heart rate, insomnia, nervousness, tremors and headaches, to seizures, heart attacks, strokes and death. Most events occurred in young to middle aged, otherwise healthy adults using the products for weight control and increased energy.

Ephedrine alkaloids in dietary supplements are usually derived from one of several species of herbs of the genus Ephedra, sometimes called Ma huang, Chinese Ephedra and epitonin. Other botanical sources include Sida cordifolia.



What is Ephedrine?

What is Ephedrine, Ephedra and Ma Huang?

These terms are used to refer to the same substance derived from the plant Ephedra. (There are many common names for these evergreen plants, including squaw tea and Mormon tea.) Ephedra is a shrub-like plant that is found in desert regions in central Asia and other parts of the world. The dried greens of the plant are used medicinally. Ephedra is a stimulant containing the herbal form of ephedrine, an FDA-regulated drug found in over-the-counter asthma medications.

In the United States, ephedra and ephedrine are sold in health food stores under a variety of brand names. Ephedrine is widely used for weight loss, as an energy booster and to enhance athletic performance. These products often contain other stimulants, such as caffeine, which may have synergistic effects and increase the potential for adverse effects. Ephedra is often touted as the "herbal fen-phen."

Ephedra's main active medical ingredients are the alkaloids ephedrine and pseudoephedrine. The Ephedras also contain various tannins and related chemicals. The stem contains 1-3% total alkaloids, with ephedrine accounting for 30-90% of this total. The concentrations of these alkaloids depends upon the particular species of Ephedra used.

Ephedrine alkaloids are amphetamine-like compounds used in OTC and prescription drugs with potentially lethal stimulant effects on the central nervous system and heart. The FDA has received more than 800 reports of adverse effects associated with use of products containing ephedrine alkaloid since 1994. These serious adverse effects, include hypertension (elevated blood pressure), palpitation (rapid heart rate), neuropathy (nerve damage), myopathy (muscle injury), psychosis, stroke, and memory loss, heart rate irregularities, insomnia, nervousness, tremors, seizures, heart attacks, strokes and death. The agency has proposed to prohibit the marketing of dietary supplements containing 8 milligrams or more of ephedrine alkaloids per serving.

Ma Huang

One source of ephedrine is a Chinese herb called ma huang, and it is totally unregulated in most places. Also known as ephedra, Mormon tea or Brigham tea, this Chinese herb has been used for over 2000 years. It is far from safe, however.

Problems Caused by Ephedrine

Ephedrine can cause high stroke, blood pressure, and heart problems. It is particularly dangerous to people who have high blood pressure. The FDA reports nausea, irregular heart beats, insomnia, nervousness and disorientation as adverse effects of ephedrine. Use is also associated with hyperactivity, diarrhea, dizziness, disorientation, numbness, anxiety, chest pains, breathing difficulty, heart palpitations, irregular heartbeat, hypertension, depression, headaches and insomnia. Three instances of death were associated and several involved heart attacks, seizures and strokes.