

# Zburn<sup>®</sup>

Studies show that 35% of North Americans are seriously overweight and that another 20-30% would benefit from some weight loss. In their efforts to lose weight many people have turned to unhealthy diets and products that contain stimulants and other unhealthy ingredients. These products and programs often promise quick weight loss and increased energy, but rarely mention the serious potential side effects and do not address the metabolic needs of the body. One of the side effects of cutting calories without providing metabolic support is not only a decreased metabolic rate, but a decreased ability to burn fat for energy <sup>(34; 48)</sup>.

## How Zburn Works

Instead of using unhealthy stimulants such as caffeine and ephedra to burn fat, Zonital's scientists looked at ways to work in harmony with the body using vitamins, minerals, and other natural ingredients. Each of the various metabolic pathways involved in burning fat was researched to determine what nutrients and botanical ingredients could enhance the body's natural fat-burning processes. The amazing result is Zburn!

There are three principle steps to burning fat for energy in the body, and Zburn's advanced formula is designed to support every aspect of these important steps. Zburn is made up of 3 critical components; Zburn Nutrient Blend, Zburn Botanical Fat-Burning Blend, and Zburn Enzyme Support. These components work together to support the body's three stages of fat-burning: 1) Release, 2) Transport, and 3) Burn.

### Stage 1: RELEASE - Release Fat from Storage.

When the body needs energy, critical hormones including adrenaline and noradrenaline (also known as epinephrine and norepinephrine) are produced in the adrenal glands and stimulate the release of fat from fat cells. B vitamins and vitamin C are critical for the production of these hormones and are included in the Zburn Nutrient Blend to ensure adequate production of these hormones. The Zburn Botanical Blend was designed to further enhance this process. Green tea, red pepper, and guarana have been shown to enhance the production and effectiveness of the body's fat-burning hormones, thereby helping to release fat from storage to be used for energy.



#### Suggested Usage:

Take 1 capsule on an empty stomach mid-morning and mid-afternoon. For optimal results take before exercise.

#### Storage:

Store in a cool, dry place.

**Advanced**  
Fat Burning Formula

### Stage 2: TRANSPORT - Transport of Fat into the Muscle to be Burned for Energy.

Once fat has been released from storage (fat cells), it must not only be transported to the muscles, it must get into the muscle, and more importantly, into the mitochondria of the muscle where it can be used for energy. The mitochondria are the powerhouses of the cell and are especially important in the muscle cells. This is where fat and carbohydrates are broken down into cellular energy (known as ATP). If the fat can't get into the mitochondria, it can't be used for energy.

The first step in getting fat into the cell requires the enzyme lipase. Research shows that individuals who are overweight are often lacking this critical enzyme at the site of the muscle. Zburn's Enzyme Support Blend includes lipase to help facilitate the removal of fatty acids so they can enter the muscle cell. Zburn's Enzyme Support Blend also includes chromium and calcium. Chromium is essential for insulin function, which plays a role in controlling the rate at which fat enters

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the muscle cell. Calcium is a co-factor for the activity of lipase and has been researched for its potential ability to enhance weight loss and fat-burning.

The next step is getting these fatty acids into the mitochondria where they can be broken down and used for energy. This requires another enzyme known as carnitine transferase. Niacin, vitamin B6, and vitamin C are all required for the body to make its own carnitine within the muscle cell. Vitamin C is especially important in this process. In fact, published studies have shown that individuals with higher levels of vitamin C have an increased ability to burn fat (known as fat oxidation), and individuals with low vitamin C status have lower fat oxidation and higher body fat levels. Zburn has included vitamin B6, niacin, and potent levels of vitamin C as part of the Zburn Nutrient Blend to ensure the muscle cells are able to make carnitine transferase.

### Stage 3: BURN - Creation of Cellular Energy (ATP) from Fat

Once inside the mitochondria, fatty acids and carbohydrates are converted to cellular energy (ATP) through the enzymes of the Citric Acid Cycle, Beta-Oxidation, and Respiratory Chain. The enzymes in these cycles that are required to break down and convert carbohydrates and fatty acids to energy require specific B vitamins to act as co-factors. Zburn includes vitamin B6, thiamin, niacin and pantothenic acid to support these pathways and ensure maximum ability to burn fat within the mitochondria.

## What The Research Says About Zburn Ingredients

### Nutrient Support Blend

Zburn's fat-burning nutrient blend includes all of the key vitamins essential for burning fat, starting with the B vitamins – thiamin (B1), niacin (B3), B6, and pantothenic acid. Each of these B vitamins is an essential co-factor required for the activation of the metabolic energy pathways, production of adrenal hormones, maintaining thyroid health, supporting mental health, and mood balance. The B vitamins are combined with vitamin C to maximize the body's ability to use fat for fuel and energy.

Because of their important role in energy metabolism, B vitamins often become depleted in individuals who are exercising and those following a calorie-restricted diet. Therefore, many sports nutritionists and physicians

recommend supplementation of these nutrients in individuals who are exercising<sup>(43; 71)</sup>.

### Thiamin

Thiamin is an essential nutrient for the enzyme complexes of the citric acid cycle in the mitochondria<sup>(14)</sup>. Studies show that deficiencies in thiamin can affect mitochondrial function and the ability to burn fat during exercise<sup>(66; 67)</sup>. Research has also found that thiamin supplementation has the potential to improve performance in athletes by lowering lactate levels and increasing VO2 Max<sup>(6)</sup>, indicating that more fat is utilized during exercise when thiamin is supplemented.

### Niacin

Niacin is the precursor for the creation of NADH in the energy pathways within the mitochondria<sup>(14)</sup>. Without NADH, the oxidative (fat-burning) pathways within the mitochondria will not function<sup>(14)</sup>. Research also shows that niacin as NADH can act as an antioxidant and help protect the mitochondria and enhance overall mitochondrial function. It is even being researched as a possible therapeutic agent in disorders where mitochondrial energy production is compromised<sup>(29; 44; 45)</sup>.

### Vitamin B6 (pyridoxine)

Although taking a vitamin B6 supplement will not magically cause you to lose weight or body fat, vitamin B6 is critical for the creation of carnitine transport enzymes, and is also essential for maintaining lean mass during weight loss and exercise programs. In fact, studies have shown a direct relationship between vitamin B6 status and the amount of lean muscle while following a calorie restricted diet<sup>(53)</sup>. According to the International Journal of Obesity<sup>(53)</sup>, a diet rich in vitamin B6 increases weight loss and stimulates lasting fat loss. B6 is also crucial for the production of the adrenal hormones and is depleted by stress, exercise, and several common medications including birth-control pills and hormone replacement therapy.

### Pantothenic Acid

Pantothenic acid is required for the formation of coenzyme A, which is critical for fatty acid oxidation (fat burning)<sup>(13; 14)</sup>. Without coenzyme A, fatty acids cannot enter the cycle of enzymes that break down fats for energy. Besides playing a key role in the breakdown of fats and carbohydrates for energy, pantothenic acid is critical to the manufacture of the adrenal hormones (epinephrine & norepinephrine)<sup>(29)</sup>.



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## Vitamin C

Like pantothenic acid, vitamin C is required for the production of the adrenal hormones involved in stimulating the release of fat from fat cells to be transported to the muscle and burned for energy. Vitamin C is also required for the formation of carnitine transport enzymes (CPT) in the muscle, which are responsible for the transport of fatty acids into the mitochondria. Muscle and blood carnitine levels are reduced substantially in individuals with reduced vitamin C levels<sup>(25; 32)</sup> and carnitine deficiency is associated with reduced fat oxidation<sup>(68)</sup>. Low vitamin C status is also associated with higher levels of body fat and an increased waist-to-hip ratio<sup>(12; 34)</sup>.

These associations have led researchers to investigate the ability of vitamin C to assist in burning fat, losing weight, and combating obesity and overweight. Several key studies have shown its potential benefits in fat burning and weight loss. A 2006 study found that fat oxidation is significantly reduced in individuals with marginal vitamin C levels, and that supplementing with vitamin C in these individuals enhanced fat oxidation during exercise<sup>(31)</sup>. This research supports earlier research showing that vitamin C depleted individuals have a reduced exercise capacity<sup>(33)</sup>, and that vitamin C supplementation is associated with greater weight loss than placebo after six weeks<sup>(50)</sup>.

Zburn's Nutrient Blend contains balanced levels of each of these nutrients to ensure optimum production of adrenal hormones and maximum ability to transport and burn fat.

## Botanical Blend

Zburn includes a proprietary blend of green tea, red pepper, and guarana. Published studies have found that the combination of green tea, red pepper, and guarana increase metabolism and daily energy expenditure<sup>(8; 26)</sup>. Zburn's proprietary blend includes specific levels of each of these ingredients standardized to contain their active components and ensure maximum effectiveness.

## Green Tea

Green tea has been shown to enhance metabolism and fat-burning ability by stimulating brown adipose tissue and enhancing the effects of the body's natural fat-burning hormones such as nor-adrenaline<sup>(15-17; 71)</sup>. Studies also show that green tea rich in catechins increases metabolic rate<sup>(17)</sup>, 24-hour energy expenditure<sup>(9)</sup>, and may lower body fat and cholesterol levels<sup>(49)</sup>. Scientists believe that one of the mechanisms by which green tea works to reduce body fat is by blocking the enzyme that makes fat<sup>(10; 62; 63)</sup>.

Green tea extracts have also been researched for their potential benefit in improving endurance capacity by stimulating the use of fatty acids for energy<sup>(47)</sup>. Several recent studies have demonstrated that green tea does in fact increase metabolic capacity and use of fats for energy during exercise<sup>(48)</sup>. When green tea is combined with regular exercise, it can stimulate the break down of fats for energy and help fight weight gain<sup>(57)</sup>.

## Red Pepper

Red pepper and spicy foods have long been part of a traditional Asian diet and many believe that this is part of what keeps them healthy and thin. Modern research has begun to examine whether this spice may hold the key to fighting obesity. Researchers found that the active component of red pepper has the unique ability to prevent immature fat cells (known as pre-adipocytes) from turning into full fledged fat cells by sending a signal to these cells that triggers a self-destruct before they become fully mature fat cells<sup>(24)</sup>. In addition to blocking fat cell maturation and destroying mature fat cells, an August 2010 study found that red pepper supplements are able to increase adrenal hormones and energy expenditure, and enhance fat utilization at rest<sup>(35)</sup>. Red pepper extracts have been shown to be safe and research demonstrates that supplements of red pepper extract are associated with abdominal fat loss and increases in fat oxidation<sup>(58)</sup>.

## Guarana

Guarana has been used traditionally in Brazil as a tea to enhance energy. In addition to being a natural source of caffeine, guarana is a rich source of tannins. Tannins are polyphenols with antioxidant properties and a variety of potential health benefits. In addition to its energy-producing benefits, guarana has been researched for its ability to enhance mental clarity and function<sup>(36)</sup>, and it's antioxidant tannins are being researched for their potential anti-platelet activity<sup>(11; 53)</sup>.

Although green tea, red pepper, and guarana are each beneficial to enhancing energy and the ability to burn fat on their own, the combination of these three botanicals has been shown to be especially beneficial. Published studies have found that the combination of green tea, red pepper, and guarana increase metabolism and daily energy expenditure<sup>(8)</sup> and reduce body fat<sup>(7)</sup>. In fact, studies have shown that you do not need high doses of any of these ingredients when they are used in combination<sup>(9; 71)</sup>.

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The benefits are even greater when combined with an effective exercise program.

### Enzyme Support Blend

Zburn's unique Enzyme Support Blend contains effective levels of the enzyme lipase that are required to break down fats into fatty acids. Lipase is combined with patented chromium and calcium to ensure maximum activity of the lipase and other metabolic enzymes in the body.

### Lipase

Lipase is the enzyme that breaks fat into fatty acids so that it can be utilized for energy. In many cases, the body's ability to produce lipase has been depleted as a result of excessive fat and sugar consumption<sup>(40; 41)</sup>. Multiple studies have found that overweight and sedentary individuals have lower levels of muscle lipase than those who are lean and those who exercise<sup>(54)</sup>. It has also been shown that low levels of muscle lipase are related to weight regain following weight reduction, especially when exercise is not involved<sup>(18; 20; 51; 76)</sup>. The low levels of muscle lipase result in a reduced ability to burn fat for energy<sup>(19; 51; 71)</sup>.

Zburn provides the highest quality grade of fully-active lipase at potent levels to help your body break down fat and use it for energy.

### Chromium

Along with lipase, Zburn supplies the body with chromium. Chromium is vitally important to health, yet many Americans are deficient in this essential trace mineral<sup>(3)</sup>. Additionally, the typical US diet is high in sugars, which increases losses of this important mineral<sup>(4; 37)</sup>. Chromium ensures that insulin works efficiently<sup>(21; 64)</sup>. This is significant since insulin helps control hunger; regulates energy, fat burning, and muscle building; governs the utilization of cholesterol; and helps resist disease by stimulating the immune system. Without some chromium, insulin doesn't work at all. Chromium deficiency causes fatigue, excess fat production, and is also a major contributor to heart disease and diabetes<sup>(1; 5; 39; 65)</sup>.

Researchers have demonstrated that the form of chromium plays a key role in how it affects insulin sensitivity and other factors. In one study<sup>(21)</sup>, it was actually demonstrated that high levels of chromium picolinate supplementation without concurrent exercise training actually caused significant weight gain in young, obese females, while chromium nicotinate supplementation resulted in significant weight loss and a lower insulin response to an oral glucose load. This

finding suggests that chromium must be combined with nicotinic acid to have optimal effects on glucose tolerance and insulin sensitivity.

Studies further indicate it is important that chromium is combined with the vitamin niacin as nicotinic acid in order to be optimally effective<sup>(64)</sup>. This is because the identified active form of chromium in the body contains both chromium and nicotinic acid<sup>(22; 59; 69)</sup>. Niacin-bound chromium has been shown in studies to be very safe<sup>(55)</sup>.

Zburn includes Chromium Nicotinate Glycinate Chelate, also known as Chromium Chelavite<sup>®</sup>, a highly effective, patented form of chromium. Chromium Chelavite<sup>®</sup> provides a stabilized chromium bound to nicotinic acid and 2 amino acids in the same form as the recently identified active form of chromium<sup>(60)</sup>. The most powerful chromium on the market, Chromium Chelavite<sup>®</sup> is absorbed over 50 percent better than chromium picolinate<sup>(2)</sup>. Because it is bound with amino acids, Chromium Chelavite<sup>®</sup> has none of the harmful waste products created by other forms of chromium.

### Calcium

Calcium is an important nutrient co-factor for the function of lipase. Studies have shown that it is critical for the stability and functionality of the enzyme<sup>(27; 38)</sup>. In addition to its important role in activating lipase, researchers have discovered that calcium has the ability to regulate lipolysis (fat breakdown) and lipogenesis (fat-creation)<sup>(56; 59; 74)</sup>.

Several studies have also shown that high-calcium diets can help reduce fat and improve metabolic parameters - even without diet or exercise, and augments weight and fat loss while following a calorie-restricted program<sup>(73)</sup>. Additionally, human studies indicate that high-calcium diets may enhance fat oxidation (fat-burning) during exercise<sup>(23; 46; 61)</sup>. Zburn includes the most absorbable form of calcium available, calcium amino acid chelate. This form of calcium has nearly double the absorption rate of other forms of calcium, ensuring you get the maximum amount of calcium possible delivered directly to the muscles where it's needed to enhance fat-burning.



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**Summary**

By ensuring your body has everything it needs to support all stages of fat-burning, Zburn gives you maximum results. Zburn is the best natural supplement for enhancing your body’s natural ability to burn fat and is unequalled in helping to reduce fat stores, retain lean muscle, enhance energy and support healthy insulin function.

**Special Considerations & Allergen Information**

**Allergens:**

Contains no major allergens. See ingredient listing for complete list of ingredients.

**Drug/Nutrient Interactions:**

- Chromium may reduce the need for glucose-lowering medications. Consult with your health practitioner and/or pharmacist if you are using any medications.
- Green tea should not be taken with MAOIs used to treat depression. Some cases of green tea causing a severe increase in blood pressure have been reported in individuals using MAOIs. Examples of MAOIs include phenelzine and tranlycypromine.
- Do not take green tea or guarana in combination with stimulant-containing medications, herbs or drugs such as amphetamines, cocaine, ephedrine, over-the-counter cold medications (i.e. pseudo-ephedrine), or ma huang. Taking green tea, guarana, or caffeine in combination with other stimulant-containing medications, herbs or drugs can cause serious problems including increased heart rate or increased blood pressure.

**Special Considerations/Contraindications:**

- Although no caffeine has been added to the product, guarana and green tea are natural sources of caffeine. Those sensitive to caffeine should use this product with caution.
- This product is not recommended for individuals with high blood pressure.
- Not recommended for individuals who are pregnant or nursing.

**Supplement Facts**

Serving Size 1 Capsule  
Servings Per Container 60

Amount Per Serving		% DV
Vitamin C (as ascorbic acid & acerola cherry)	125 mg	208%
Thiamin (as thiamin mononitrate)	0.5 mg	33%
Niacin	5 mg	25%
Vitamin B6 (as pyridoxine HCL)	4 mg	200%
Pantothenic Acid (as dicalcium pantothenate)	20 mg	200%
Calcium (as dicalcium malate*)	50 mg	5%
Magnesium (as magnesium lysyl glycinate chelate*)	5 mg	1%
Chromium (chromium nicotinate glycinate chelate*)	100 mcg	83%

Proprietary Blend	150 mg	†
Guarana (seed), Red Pepper Extract (fruit, 0.25% capsaicin), Green Tea Extract ( <i>camellia sinensis</i> , leaf, 50% EGCG), Lipase (750 LU).		

† Daily Value (DV) not established.

Other Ingredients: Vegetable Capsule (cellulose, chlorophyll), Rice Powder, Magnesium Stearate, Silicon Dioxide.

\*Minerals supplied by Albion International, Inc. © 2010 Zonital International



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