

**TRAINING – RACING FUEL GUIDE**

**CLICK TO DOWNLOAD**

**RIGHT FUEL!  
RIGHT TIME**

**SFuels.®**

**Go Longer.**

# WHY?

- 1 Avoid Bonking – Metabolic Flexibility**  
*By training efficient use of fat and carbohydrate fuel sources, athletes can mitigate bonking with stable energy for strong finishes.*
- 2 Preserve Glycogen – Finish Stronger**  
*By oxidizing fat at higher and higher intensities, you will preserve glycogen stores, and lower lactate production - to support your strongest finishes.*
- 3 Mitigate Gut Distress. Lower Inflammation**  
*Through efficient oxidation of fat for fuel, athletes do NOT need to over-consume sugar in races, mitigating Gut/GI distress and lowering inflammation.*



Efficient fat-oxidation



Glycogen preservation



Mitigated gut distress

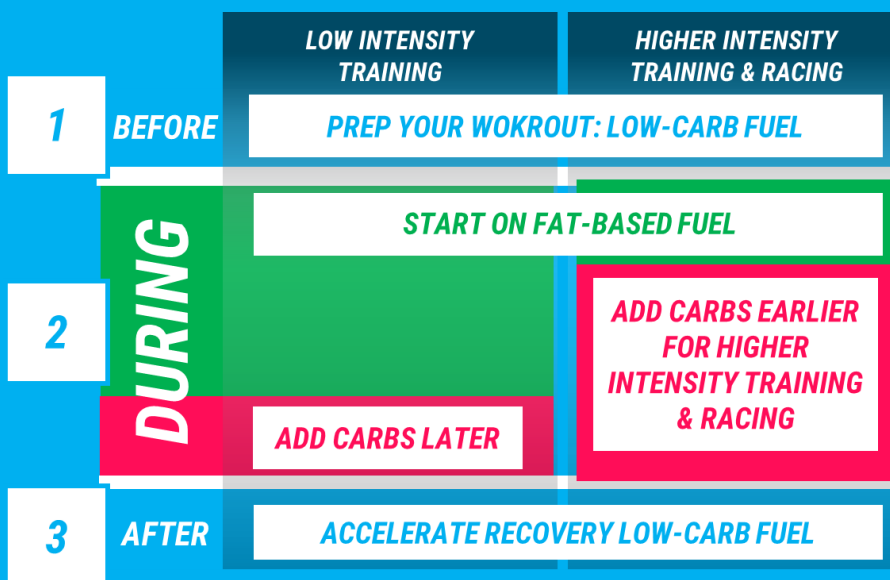


Lower perceived exertion



Accelerated recovery

## HOW? ... THE SIMPLE VERSION



### Product Usage Guide: Video Walk-through

Let us walk you through our Product Usage Guide



# HOW TO USE SFUELS PRODUCTS - FULL VERSION: WALL CHART

GUIDED WALK-THROUGH VIDEO



		TRAINING			RACING
		LONG SLOW DISTANCE INTENSITY AEROBIC   ZONE 2	LOW TEMPO INTENSITY ULTRA & IRONMAN RACE	UPPER TEMPO INTENSITY MARATHON & 70.3 RACE	
60 mins BEFORE	<b>LOW-CARB PRE-FUELING + PRIMED FAT-BURNING</b>  SFuels LIFE Bars				 SFuels PRIMED Drink
	DURING	first 120mins  SFuels TRAIN Fuel Drink	first 90mins TRAIN FAT-BURNING FOR FUEL SFuels TRAIN Fuel Drink	first 60mins PRESERVE GLYCOGEN beyond 60mins	first 30mins LESS LACTATE beyond 30mins  SFuels RACE+ Drink, SFuels RACE+ Gel Powder (and RACE+ Gel Bullet)
beyond 120mins TRAIN SIMULTANEOUS CARB/FAT BURNING AND RAPID GUT TRANSIT		beyond 90mins	beyond 60mins	beyond 30mins	
30 mins AFTER		<b>ACCELERATE MUSCLE, GUT REPAIR AND RECOVERY</b>  SFuels Revival Shake Drink			



## IN-RACE DOSING

### Pre-Race PRIMER: Prime Fat Burning & Lower Perceived Exertion

SFuels PRIMED Drink:  
2 Sachets (160mg Caffeine)



### ½ Marathon | Marathon | Ultra-Marathon

SFuels Race+ Drink:  
30Gr/Hr Carbs



2 Serves per Soft-flask

or

SFuels Race+ Gel Powder:  
60Gr/Hr Carbs



2 Serves per SFuels Bullet

### Olympic Distance Triathlon

SFuels Race+ Drink:  
30Gr/Hr Carbs



2 Serves per Bike Bottle

or

SFuels Race+ Gel Powder:  
60Gr/Hr Carbs



2 Serves per Soft-flask

### Ironman® | 70.3 Ironman®

SFuels Race+ Drink: BIKE  
45Gr/Hr Carbs



Concentrate  
2 Serves/Hr  
x Hrs on Bike

or

BIKE

SFuels Race+ Gel Powder:  
60Gr/Hr Carb



Concentrate  
3 Serves/Hr  
x Hrs on Bike

RUN

SFuels Race+ Gel Powder:  
60Gr/Hr Carbs



2 Serves per SFuels Bullet



## HOW IT WORKS

With large energy demands during endurance exercise, efficient access to the 15 times larger fat-based energy pool (than carbohydrate pool) is critical to endurance athletic performance.

Training the body to flexibly use both non-carbohydrate and carbohydrate energy sources is key to extended endurance athletic capacity, lower Gut distress and energy crash-bonk risks.

## CARBOHYDRATE CENTRIC FUELING

The four major problems with high and exclusive use of carbohydrate-sugar based fueling includes:

- 1. BLUNT AEROBIC DEVELOPMENT:** With rapid spikes in blood glucose and insulin, fat oxidation is blunted(1), driving an even greater dependency on carbohydrates for fuel. Additionally, consistent use fructose in fueling formulas, has shown to suppress glucose transporter proteins (in muscle cells) specifically Glut4 (3), limiting efficient carbohydrate flow into muscle cells, and blunting the training effect of aerobic exercise (2, 4).
- 2. GUT/GI DISTRESS:** In longer-duration exercise, heat and higher carb/fructose consumption (>60gram/hour) has been shown to trigger chaotic GI distress, with symptoms of bloating, belching, diarrhea and vomiting. Fructose (and sucrose) has the additional negative side-effect of disrupting the GI/Gut membrane integrity, raising systemic inflammation. (5, 6, 7)
- 3. RISK OF BONK/CRASH:** Taking in simple carbohydrates creates an absolute reliance for routine feeding of these fuels during extending training and racing. As commonly seen in most endurance events, this swinging of high-low blood sugar and energy levels dramatically raises the risk of bonking/crashing/hitting the wall.
- 4. CHRONIC INFLAMMATION:** The longer-term adoption of prolonged higher blood sugar levels has consistently shown to be associated with more chronic inflammatory based diseases – including cardiovascular disease, diabetes, rheumatic diseases. (8,9, 11, 12, 13)

## RIGHT TIME RIGHT FUEL

Fat oxidation efficiency is a key tenant for stabilizing energy, spared muscle glycogen, mitigated Gut/GI distress, and reducing inflammation allowing endurance athletes to train, race and recover optimally.

- 1. FAT OXIDATION OPTIMIZATION:** By improving Fat-Oxidation efficiency, athletes can preserve precious muscle-liver glycogen stores. Day to day dietary (including during training) intake of quality fats and timed carbohydrate/protein, begins to shift and train, the metabolism and muscles to become less reliant on carbohydrate as fuel. Lipolytic and oxidative enzymes that breakdown fat can be trained (like muscles) through diet, training-fuel and exercise (14), with lab results showing cases of 2-3 times improvement in fat oxidation efficiency.
- 2. ENHANCED ENDURANCE:** By timed use of carbohydrates, research is showing enhanced endurance performance, namely through a lower carbohydrate for aerobic/zone 2 workouts, and higher carbohydrate for threshold/anaerobic-zone 4-5 workouts (15). By training both fat and carbohydrate oxidation efficiency, the endurance athlete can better preserve glycogen stores, access flexible-simultaneous energy from fat and carbohydrates, thereby reducing carbohydrate dependency and high intake risks (bonk/crash, gut, inflammation etc.) – noted earlier.
- 3. MITOCHONDRIA & MUSCLE SYNTHESIS:** Researchers (16) conclude that train-low (carbohydrate), and higher leucine (17) approaches can best trigger exercise induced mitochondrial biogenesis, and muscle protein synthesis.



## KEY TAKEAWAYS

Fat oxidation efficiency enables more stable, flexible (fat / carb) simultaneous fuels for enhanced endurance training and racing.

Through reduced carbohydrate dependency/intake – risks of energy-crash/bonking and Gut/GI risks are mitigated.

Fat oxidation has a lower inflammatory load – supporting more consistent, higher volume training and racing blocks.



## THE SCIENCE OF HOW TO IMPROVE FAT OXIDATION

Lab testing and race results are showing that the right timing, and the right type of fuel, has significant efficiency impact on fuel (substrate) oxidation and endurance.

Analyses of over 125 studies(1) on athlete's substrate (Fat/Carb) oxidation, has shown that the most influential factors effecting substrate (fuel) oxidation outcomes are, exercise duration (and intensity), dietary intake (during and outside of exercise) and sex.

### RIGHT TIME: THE BEST TIME TO IMPROVE FAT OXIDATION.

1. Studies (18) suggest that a diet including Medium-Chain fats and carbohydrate for 6 weeks prior to an endurance capacity test, can increase (>20%) key enzyme activities of the Krebs cycle (cellular energy production) and ketone utilization/oxidation. In these controlled animal tests, endurance capacity was extended by ~11%, and muscle glycogen concentration was 20% greater than control animals.
2. Further studies (19) involving pre-feeding of Medium-Chain fats have also shown improvements (two-fold) in endurance running capacity, specifically in higher (32-36C) temperature environments. The study revealed, that key enzymes-markers of skeletal muscle mitochondrial biogenesis and the respiratory chain, were notably upregulated by the consumption of Medium-chain Fats. It is also worth noting, that negative signaling (for mitochondrial biogenesis) was inhibited by Medium-chain fats. All in all, MCT would seem to offer some protective effect against heat-impairment to exercise endurance-capacity.

### RIGHT FUEL: BEST FATS TO IMPROVE EFFICIENCY AND PERFORMANCE.

3. Cycling studies (20), had subjects ride for 2hrs at 60% Vo2Max, then followed with a 40km time-trial study. Athletes adding Medium-chain fats to carbohydrate fuels, had improved performances. Furthermore, on finishing the time-trial, athletes had higher plasma fatty acid (and ketone) levels, and either direct/indirect (via lactate) reduction in oxidized glycogen – suggestive of a glycogen sparing effect.
4. In cross-country skiers, researchers (21) reconfirmed that while long-chain fat oxidation was suppressed in high-intensity exercise, medium-chain fat oxidation was not. At loads of 80% VO2max, serum levels of medium-chain fats increased. This is thought to occur since, medium-chain fats like C10 (and C8) can traverse membranes without 'carriers' – as required by long-chain fats. Other studies (22) have also shown the increased speed of oxidation of medium chain fats, compared to long chain fats (mono and poly-unsaturated).
5. In a meta-analysis (26) on the acute use of caffeine (~3mg/Kg), researchers showed a significant increase in fat oxidation.
6. In addition to endurance performance, high-intensity performance, researchers (23) have also shown that when medium-chain fats are added to a carbohydrate-drink, gastric emptying time of the carbohydrate-drink can be accelerated.
7. In a rigorous controlled study, researchers showed that even for very high-intensity exercise (=>85% Vo2 Max) there was no performance benefit for high-carb athletes vs. low-carb high-fat nutrition based athletes. Notably low-carb high fat athletes had fat oxidation rates >1.58gr/min even at intensities >85% Vo2Max. (28)
8. Researchers (27) have shown that pre-exercise carbohydrate consumption, blunts fat-oxidation efficiency while showing no improvement to high-intensity average power (on bike). Athletes' perceived exertion and hunger was no different between carb-consuming athletes, and non-carb/fasted athletes.
9. Researchers (24) demonstrated that in only 15 days of high long-chain fat feeding, animals showed evidence of impaired exercise capacity – notably their oxidative capacity. Conversely, animals in the same study feeding on medium chain fats did NOT show evidence of altered oxidation efficiency or impaired exercise performance. Similar animal studies (25) are showing that high fat LCT diets cause mitochondrial derangement (through UCP3), with results showing anywhere from 35%, to 55% lower-less running endurance capacity (24).

## KEY TAKEAWAYS

1. Increase fat (and lower carbohydrates) in diet and training (>6-8 weeks prior to racing) to best leverage the efficiency and benefit of improved fat oxidation. Caffeine will further raise fat-oxidation, and pre-exercise carbohydrate consumption will reduce fat oxidation.
2. Medium-Chain Triglyceride (fats) like C8, C10, C12 included as an exercise fuel, has shown most promise in improved endurance performance, glycogen sparing capacity, and accelerated gastric emptying of carbohydrate fuel drinks.
3. High (over) consumption of long-chain fats, may impair oxidation efficiency of carbohydrates.



## BLUEPRINT

Add to cart

Supplement Facts	
30 Servings Per Container	
<b>Serving Size</b>	<b>About 1 Scoop (10.8g)</b>
<b>Amount Per Serving</b>	
<b>Calories</b>	<b>50</b>
	% Daily Value*
<b>Total Fat</b> 4g	5%
Saturated Fat 4g	20%
Trans Fat 0g	0%
<b>Sodium</b> 240mg	10%
<b>Total Carbohydrate</b> 1g	1%
Dietary Fiber 0g	0%
Total Sugars 0g	†
Includes 0g Added Sugars	0%
<b>Protein</b> 3g	6%
Calcium 25mg	2%
Potassium (from Potassium Gluconate) 50mg	2%
L-Glutamine 500mg	†

Other Ingredients: Coconut Oil, Collagen Peptides (Hydrolyzed Beef), Natural Flavors, Himalayan Rock Salt, Citric Acid, Malic Acid, Monk Fruit Extract.

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutritional advice.

†Daily Value (DV) not established.



### TEXTURE

Water like. Thin and light.

### MIX WITH

Cold water.

### SWEETNESS

Mild to low.

### FLAVORS

Coconut-Lime. Strawberry Lemonade  
Pomegranate-Acai. Fruit-Punch

### Fuel and Fat Oxidation Training

Coconut based MCT (medium chain triglycerides) bound to collagen (not maltodextrin) to provide caloric fuel, and to train and trigger lipolytic enzyme fat-oxidation efficiency.

The MCT forms used in SFuels TRAIN are C8 & C10 which has shown to be the most rapid assimilation and oxidation forms, in traversing cell membranes most efficiently – due to the lower carbon chain size.

### Electrolyte Balance

Higher dose sodium and potassium, are warranted as supplementation to offsetting electrolyte loss noted in lower-carbohydrate diets.

Additionally, repetitive long-duration training sessions and blocks places further strain on sodium and potassium reserves.



### Simultaneous Fat/Carb Oxidation and Gut Distress Mitigation

No inclusion of added sugar, sucrose, fructose, glucose, maltodextrins, syrups, or sugar alcohols.

Avoidance of simple carbohydrates, mitigates the risk of triggering insulin, which would have an anti-lipolytic (anti fat oxidation) impact. This issue is most prominent in the first 30-60 minutes of exercise where Glut-4 transporters are still moving to the muscle cell edge, to open glucose channels. Once these channels are opened, the muscle cell can receive and oxidize carbohydrates without insulin, and since without insulin, fat and carbohydrate can be simultaneously oxidized.

The avoidance of sugar-alcohols, and the lowered used of carbohydrate sources, dramatically reduces the risk of gut membrane and microbiome derangement and associated gut/GI distress symptoms, commonly seen in endurance racing/training.

## SUGGESTED USAGE

Add 1 scoop of SFuels TRAIN Endurance Powder to 16oz of cold water and mix/shake thoroughly. Consume 1 serving for every 30 minutes of sustained activity. Test in training



# SFuels. RACE+ Drink

RIGHT FUEL  
RIGHT TIME

## BLUEPRINT

Add to cart

Supplement Facts	
Serving Size: 25.9g (About 1 Scoop)	
15 Servings Per Container	
Amount Per Serving	
<b>Calories</b>	<b>110</b>
% Daily Value*	
Total Fat 4g	5%
Saturated Fat 4g	20%
Trans Fat 0g	
Sodium 250mg	11%
Total Carbohydrates 15g	5%
Dietary Fiber 0.5g	2%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 3g	6%
Calcium 30mg	2%
Potassium (from Potassium Gluconate) 60mg	2%
Magnesium (from Magnesium Glycinate) 90mg	20%
L-Glutamine 500mg	

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutritional advice.  
\*Daily Value (DV) not established.

OTHER INGREDIENTS: Highly Branched Cyclic Dextrin, Coconut Oil, Collagen Peptides (Hydrolyzed Beef), Natural Flavors, Himalayan Rock Salt, Citric Acid, Turmeric Powder (for color), Beet Root Powder (for color), Monk Fruit Extract.

CONTAINS: COCONUT. Although this product may not contain one or all of the following, this product is manufactured in a facility that handles milk, soy, egg, tree nuts, fish, crustaceans/shellfish, and wheat products.

MADE IN THE USA USING INGREDIENTS SOURCED WORLDWIDE.



### TEXTURE

Water like. Thin and light.

### MIX WITH

Cold water.

### SWEETNESS

Mild

### FLAVORS

Coconut-Lime. Cherry. Fruit Punch. Strawberry-Lemonade

### Efficient Carbohydrate Digestion Assimilation and Mitigated Gut Distress

Race+ starch (HBCD) has been pre-digested with enzymes creating a high molecular weight, highly branched carbohydrate for rapid transit through the stomach. Researchers have highlighted HBCD having 30% faster rise of blood glucose, when compared to a glucose-only fluid.

No sucrose, fructose, maltodextrin or sugar-alcohols are used to avoid Gut/GI irritation and distress.

Race+ avoids the use of fructose to mitigate the risk of interfering with GLUT-4 (glucose) muscle-cell transporters.

Race+ includes Glutamine to further support fuel-oxidative (energy) supply to muscles, and mitigate exercise heat-triggered gut membrane permeability and subsequent higher inflammatory loads.

### High Caloric Load & Improved Carbohydrate Absorption

Race+ increases overall caloric fuel load (9cals/gram) through using C8 and C10 MCTs which are rapidly absorbed-oxidized, even in high-intensity workloads.

MCTs improve the speed and rate of carbohydrate absorption.



### Electrolyte Balance

Race+ includes supplementation of Calcium and Potassium, and higher race-level dosages of Sodium.

Additionally, Race+ uses a specific Glycinate form of Magnesium to enable higher dosage with no Gut-GI irritation (common to other Magnesium forms).

## SUGGESTED USAGE

Add 1-4 (15-60gr/Hr. CHO) scoops of SFuels Race+ (typically to 16oz of cold water) per hour depending on exercise intensity and heat-humidity. SFuels recommends testing Race+ fueling in training at race intensity conditions (heat/humidity/elevation) – in optimizing your Race+ fluid/per hour.



SFuels.

SFuels Technical Development Team

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October 2022  
Updated October 2022



## BLUEPRINT

Add to cart

Supplement Facts	
6 Servings Per Container	
Serving Size <b>37.5g (About 1 Scoop)</b>	
Amount Per Serving	% Daily Value*
<b>Calories</b> 140	
<b>Total Fat</b> 6g	8%
Saturated Fat 6g	30%
<b>Total Carbohydrate</b> 22g	8%
Dietary Fiber 1g	4%
Total Sugars 0g	†
Includes 0g Added Sugars	0%
<b>Protein</b> 5g	†
<b>Calcium</b> 40mg	4%
<b>Magnesium</b> (from Magnesium Glycinate) 110mg	25%
<b>Sodium</b> 130mg	6%
<b>Potassium</b> (from Potassium Gluconate) 80mg	2%
<b>L-Glutamine</b> 750mg	†

\*Percent Daily Values are based on a 2,000 calorie diet.  
†Daily Value (DV) not established.



**OTHER INGREDIENTS:** Highly Branched Cyclic Dextrin, Coconut Oil, Collagen Peptides (Hydrolyzed Beef), Natural Flavors, Himalayan Rock Salt, Citric Acid, Beet Root Powder (for color), Xanthan Gum, Turmeric Powder (for color), Monk fruit Extract.

**CONTAINS: COCONUT.** Although this product may not contain one or all of the following, this product is manufactured in a facility that handles milk, soy, egg, tree nuts, fish, crustaceans/shellfish, and wheat products.

**TEXTURE**  
Gel – Crème Like

**MIX WITH**  
Cold water.

**SWEETNESS**  
Mild

**FLAVORS**  
Fruit Punch

### Efficient Carbohydrate Digestion Assimilation and Mitigated Gut Distress

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MCTs improve the speed and rate of carbohydrate absorption.

### Electrolyte Balance

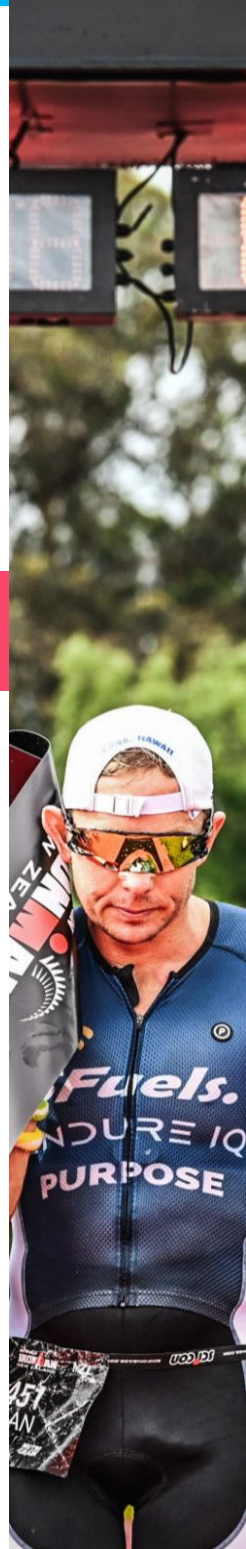
Race+ includes supplementation of Calcium and Potassium, and higher race-level dosages of Sodium.

Additionally, Race+ uses a specific Glycinate form of Magnesium to enable higher dosage with no Gut-GI irritation (common to other Magnesium forms).



## SUGGESTED USAGE

Add 1-3 (22-66gr/Hr. CHO) scoops of SFuels Race+ (typically to 16oz of cold water) per hour – depending on exercise intensity and heat-humidity. SFuels recommends testing Race+ fueling in training at race intensity conditions (heat/humidity/elevation) – in optimizing your Race+ fluid/per hour.



**SFuels.**

SFuels Technical Development Team

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October 2022  
Updated October 2022

## BLUEPRINT

Add to cart

### Nutrition Facts

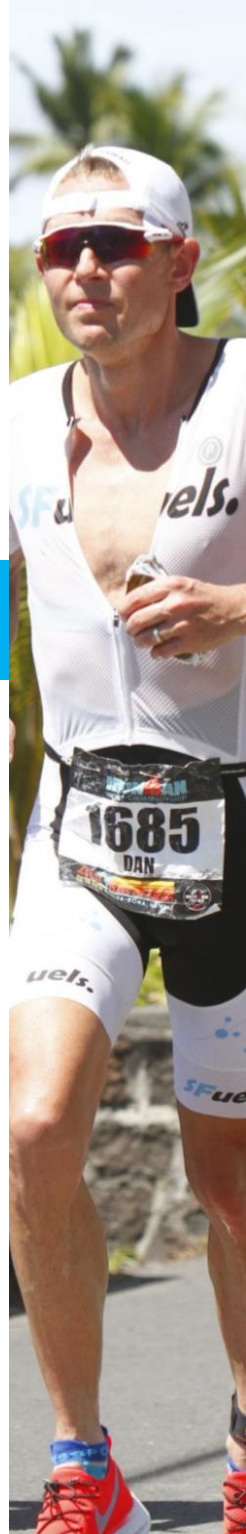
Amount Per Serving	% Daily Value*	Amount Per Serving	% Daily Value*
<b>Total Fat</b> 11g	<b>14%</b>	<b>Total Carbohydrates</b> 13g	<b>5%</b>
Saturated Fat 2g	<b>10%</b>	Dietary Fiber 11g	<b>39%</b>
Trans Fat 0g		Total Sugars 1g	
<b>Cholesterol</b> 5mg	<b>2%</b>	Includes 1g Added Sugars	<b>2%</b>
<b>Sodium</b> 65mg	<b>3%</b>	Sugar Alcohol 0g	
		<b>Protein</b> 15g	
Vitamin D 0mcg 0% • Calcium 110mg 8% • Iron 0.6mg 4% • Potassium 70mg 2%			

INGREDIENTS: Protein Blend (Whey Protein Isolate, Milk Protein Isolate, Sunflower Lecithin), Almond Butter, Non-GMO Prebiotic Corn Fiber, Non-GMO Soluble Tapioca Fiber, Organic Cacao Nibs, Sunflower Oil, Chicory Root Fiber, Sunflower Lecithin, Organic Vanilla Extract, Natural Flavors, Sea Salt, Stevia, Potassium Sorbate. **CONTAINS: Milk, Tree Nuts (Almonds).** May contain traces of Peanuts, Egg, Soy, Wheat and other Tree Nuts. May contain shell and/or pit fragments.

### Nutrition Facts

Amount Per Serving	% Daily Value*	Amount Per Serving	% Daily Value*
<b>Total Fat</b> 11g	<b>14%</b>	<b>Total Carbohydrates</b> 15g	<b>5%</b>
Saturated Fat 2g	<b>10%</b>	Dietary Fiber 11g	<b>39%</b>
Trans Fat 0g		Total Sugars 2g	
<b>Cholesterol</b> 5mg	<b>2%</b>	Includes 0g Added Sugars	<b>0%</b>
<b>Sodium</b> 65mg	<b>3%</b>	Sugar Alcohol 0g	
		<b>Protein</b> 13g	
Vitamin D 0mcg 0% • Calcium 100mg 8% • Iron 0.7mg 4% • Potassium 70mg 2%			

INGREDIENTS: Protein Blend (Whey Protein Isolate, Milk Protein Isolate, Sunflower Lecithin), Almond Butter, Non-GMO Prebiotic Corn Fiber, Non-GMO Soluble Tapioca Fiber, Sunflower Oil, Chicory Root Fiber, Organic Cacao Nibs, Blueberries, Organic Cocoa, Sunflower Lecithin, Organic Vanilla Extract, Natural Flavors, Sea Salt, Stevia, Potassium Sorbate. **CONTAINS: Milk, Tree Nuts (Almonds).** May contain traces of Peanuts, Egg, Soy, Wheat and other Tree Nuts. May contain shell and/or pit fragments.



**TEXTURE**  
Soft, Moist, Chewy

**MIX WITH**  
-

**SWEETNESS**  
Mild - Medium

**FLAVORS**  
Vanilla Cacao  
Blueberry-Cacao

### High-Satiety Food without the Carbs.

SFuels LIFE - Endurance Bars use a proprietary blended mixture of various Whey protein isolates, resistant starches and fat to provide a slow-digesting, high-satiety snack.

Quality low-allergenic Whey protein isolates provide complete BCAA support for micro muscle tissue repair.

Resistant starches and fibers undergo minimal assimilation through the digestive process, thereby minimizing increased blood-sugar levels, while helping to support gut health and production/assimilation of healthy Short Chain Fatty Acids.



### No High-Heat Baking for Retained Nutrient Values

SFuels LIFE Endurance Bars are not baked, or heat treated to maintain nutrient levels in heat sensitive fats, oils and flavonoid rich ingredients like Cacao.

### No Sugar, or sugar Alcohols Added.

SFuels LIFE Endurance Bars are very low in sugar. To minimize blood sugar spikes - we use NO added sugar/sucrose, dextrose, dried fruits, rice or cane syrups, fructose, or maltodextrin.

SFuels LIFE Endurance bars use no sugar alcohols like Maltitol, which research increasingly highlights interfere with the gut microbiome.

## SUGGESTED USAGE

Take ½ to 1 bar up to an hour before training sessions, or take 1 bar within 30mins post workout/training session.



# SFuels. PRIMED

RIGHT FUEL  
RIGHT TIME

## BLUEPRINT

Add to cart

Supplement Facts		
Serving Size 3.6g (1 Packet) 15 Servings Per Container		
	Amount Per Serving	%DV**
Calories	5	
Total Carbohydrate	1g	<1%
Niacin (as Niacinamide)	16mg	100%
Vitamin B6 (from Pyridoxine HCL)	17mg	1000%
Vitamin B12 (as Methylcobalamin)	24mcg	1000%
Taurine	1g	†
Acetyl L-Carnitine	250mg	†
Caffeine (from Green Tea Extract)(Camellia sinensis)	80mg	†

**OTHER INGREDIENTS:** Natural Flavors, Citric Acid, Malic Acid, Monk Fruit Extract, Silica, Turmeric Powder (for color).

**CONTAINS: COCONUT.** Although this product may not contain one or all of the following, this product is manufactured in a facility that handles milk, soy, egg, tree nuts, fish, and wheat products.

MADE IN THE USA USING INGREDIENTS SOURCED WORLDWIDE

High caffeine content, not recommended for children, pregnant or breastfeeding women, or people sensitive to caffeine (32mg/100ml). Consume responsibly.



Supplement Facts		
Serving Size 2.6g (1 Packet) 15 Servings Per Container		
	Amount Per Serving	%DV**
Calories	5	
Total Carbohydrate	1g	<1%
Niacin (as Niacinamide)	16mg	100%
Vitamin B6 (from Pyridoxine HCL)	17mg	1000%
Vitamin B12 (as Methylcobalamin)	24mcg	1000%
Taurine	1g	†
Acetyl L-Carnitine	250mg	†
Caffeine (from Green Tea Extract)(Camellia sinensis)	80mg	†

**OTHER INGREDIENTS:** Natural Flavors, Malic Acid, Beet Juice Powder (for color), Monk Fruit Extract, Silica.

**CONTAINS: COCONUT.** Although this product may not contain one or all of the following, this product is manufactured in a facility that handles milk, soy, egg, tree nuts, fish, and wheat products.

MADE IN THE USA USING INGREDIENTS SOURCED WORLDWIDE

High caffeine content, not recommended for children, pregnant or breastfeeding women, or people sensitive to caffeine (32mg/100ml). Consume responsibly.



### TEXTURE

Unnoticeable to slight creaminess

### MIX WITH

SFuels TRAIN. SFuels Race+ Or with water, or fruit-smoothies

### SWEETNESS

Mild Sweet

### FLAVOR

Pineapple or Watermelon

### Increase Fat Oxidation 80mg Measured Caffeine Dose

Delivering a predictable fat-oxidation improvement is achieved in SFuels PRIMED, by delivering a controlled measured dose of caffeine per serve of 80mg.

Taken at 2.5-3mg/Kg body weight, the green tea extracted caffeine raises both fat oxidation, and increases ketogenesis from the medium chain triglycerides.

Caffeine has shown to also raise cognitive functions, including Vigor (confidence), assertiveness, mood and reduce Rate of Perceived Exertion in high intensity exercise.

Sugar or sugar alcohols are avoided in SFuels PRIMED to mitigate insulin triggered blunting of fat oxidation.

### Acetyl-L Carnitine

Required nutrient to shuttle long chain fatty acids into the mitochondria for oxidation, while also facilitating the removal of fat-oxidation metabolites out of the mitochondria

### Taurine

Studies show Taurine supplementation can reduce time to exhaustion from exercise.

### B3/B6/B12

Key B-vitamins are essential in the process of extracting energy from consumed food substrates.



## SUGGESTED USAGE

Add below serves (sachet) to your SFuels TRAIN, or RACE+ drink bottle.

Bodyweight ~Kg	Prior (Serves) ~1Hr	During (Serves) 1st 2Hrs
55-65		1
70-90	1	2
95-120		3

SFuels.

SFuels Technical Development Team

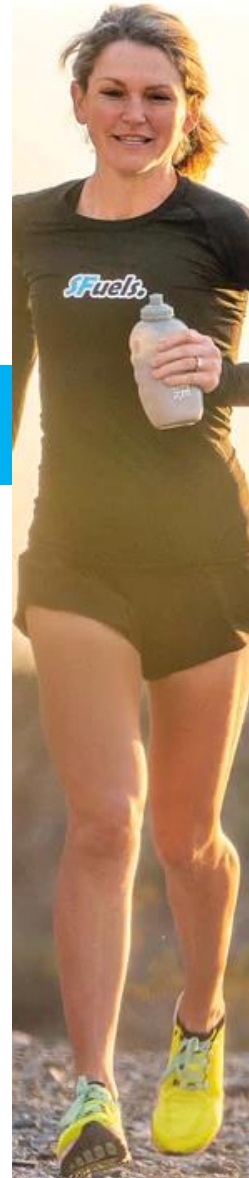
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October 2022  
Updated October 2022

## BLUEPRINT

Add to cart

Supplement Facts		
Serving Size 36g (1 Scoop)		
Servings Per Container About 25		
	Amount Per Serving	%DV**
Calories	90	
Total Fat	1g	1%
Saturated Fat	1g	5%
Sodium (from Sodium Beta-hydroxybutyrate)	1220mg	53%
Total Carbohydrates	2g	1%
Dietary Fiber	1g	4%
Total Sugars	<1g	
Protein	19g	
Calcium	120mg	10%
Iron	1.1mg	6%
Potassium (from Potassium Gluconate)	70mg	2%
L-Glutamine	5g	†
Sodium BHB (Beta-hydroxybutyrate)	6g	†

\*\*Percent Daily Values (%DV) are based on a 2,000 calorie diet.  
†Daily Value (DV) not established.



### TEXTURE

Creamy-shake like

### MIX WITH

Cold water, Cream or Milk

### SWEETNESS

Mild

### FLAVORS

Chocolate-Cocoa

Reducing leucine (protein) muscle oxidation, from high volume endurance exercise by raising levels of B- hydroxybutyrate (BHB) ketones.

Improve muscle-torque (power), lower delayed onset muscle soreness and inflammation, through high dose L-Glutamine supplementation. Reduce, exercise heat-triggered damage to the gut membrane, by rapid membrane repair, through L-Glutamine.

Replenish lowered sodium levels, commonly seen in low-carb endurance athletes.



Using highest quality whey protein isolate, to improve lean-body mass, to reduce the damaging effects of high-volume eccentric muscle contractions (running, cycling etc.) resulting in a decline of muscle strength and possible micro-tear muscle damage.

Whey protein has also been highlighted for improving immune response, and blunting cortisol responses from training stress.

Eliminating sugar triggered insulin spikes, stalled fat-oxidation and heightened inflammatory markers through avoiding the use of sucrose, glucose, fructose, maltodextrins.

Maintain favorable gut bacteria, by avoiding the use of all sugar alcohols like sucralose, that have shown to disrupt the gut microbiome.

## SUGGESTED USAGE

Drink SFuels REVIVAL within 30minutes of exercise, workouts. Add 1-2 scoops to 16oz of cold water, or to 14oz cold water and 10oz of crème or your dairy-milk choice.

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SFuels Technical Development Team

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October 2022  
Updated October 2022



# SFuels. TRANSFORM EVERYDAY FAT OX

RIGHT FUEL  
RIGHT TIME

## BLUEPRINT

Transform every-day high-carb meals, snacks and drinks to low-carb high-fat, foods to minimize heightened-sustained blood glucose and insulin levels.

Serving Size: 9g (About 1 Scoop)		
30 Servings Per Container		
	Amount Per Serving	*DV%
<b>Calories</b>		<b>50</b>
<b>Total Fat</b>	4g	5%
Saturated Fat	4g	20%
Trans Fat	0g	0%
<b>Sodium</b>	240mg	10%
<b>Protein</b>	3g	6%
<b>Calcium</b>	22mg	2%
<b>Potassium (from Potassium Gluconate)</b>	50mg	2%
<b>L-Glutamine</b>	500mg	†

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutritional advice.  
†Daily Value (DV) not established.

Other Ingredients: Coconut Oil, Collagen Peptides (Hydrolyzed Beef), Himalayan Rock Salt, Monk Fruit Extract.



SFUELS LIFE RECIPE GUIDE  
DOWNLOAD: [CLICK HERE](#)



### TEXTURE

Unnoticeable to slight creaminess

### MIX WITH

Food/Drink Recipes

### SWEETNESS

Mild Sweet / Salty.

### FLAVOR

Enhances Flavor of recipe-foods

### Replace Calories – Quality Fat

SFuels LIFE - TRANSFORM provides Medium Chain Triglycerides (MCT) bound to collagen as a source of quality fat based calories which can be added to every-day foods – including breakfasts, snacks, drinks and meals. With quality fat added to meals and recipes, carbohydrate ingredients – like grains, starches, sugars, sweeteners, syrups can be replaced.

SFuels LIFE - TRANSFORM uses the C8 (and C10) form of MCTs which is digested and then transported rapidly into the muscle cell mitochondria efficiently – similarly to carbohydrates.

No carbohydrates, sugar, sucrose, glucose, fructose have been added to SFuels LIFE - TRANSFORM to mitigate insulin stimulation.

SFuels LIFE - TRANSFORM avoids the use of artificial sweeteners and sugar alcohols. SFuels LIFE - TRANSFORM uses natural monk fruit to provide a non-carbohydrate sweetness to foods it is added to.



### Rebalanced Electrolytes

SFuels LIFE – TRANSFORM is formulated with added sodium and potassium for supplementing foods-recipes that it is added to.

### Gut Membrane Health

Glutamine is consistently used for rapid repair of gut membrane integrity, to minimize endotoxin leakage from the gut into the systemic circulation, thereby mitigating associated inflammation.

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October 2022  
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## REFERENCES

1. Jeffrey A Rothschild, Andrew E Kilding, Daniel J Plews. What Should I Eat before Exercise? Pre-Exercise Nutrition and the Response to Endurance Exercise: Current Prospective and Future Directions. *Nutrients*. 2020 Nov.
2. Natalia Gomes Gonçalves, Stephanie Heffer Cavaletti, Carlos Augusto Pasqualucci, Milton Arruda Martins, Chin Jia Lin. Fructose ingestion impairs expression of genes involved in skeletal muscle's adaptive response to aerobic exercise. *Genes Nutr*. 2017 Dec
3. Veeraj Goyaram, Tertius A Kohn, Edward O Ojuka. Suppression of the GLUT4 adaptive response to exercise in fructose-fed rats. *Am J Physiol Endocrinol Metab*. 2014 Feb
4. K-A Lê, D Faeh, R Stettler, C Debard, E Loizon, H Vidal, C Boesch, E Ravussin, L Tappy. Effects of four-week high-fructose diet on gene expression in skeletal muscle of healthy men. *Diabetes Metab*. 2008 Feb
5. Young-Eun Cho, Do-Kyun Kim, Wonhyo Seo, Bin Gao, Seong-Ho Yoo, Byoung-Joon Song. Fructose Promotes Leaky Gut, Endotoxemia, and Liver Fibrosis Through Ethanol-Inducible Cytochrome P450-2E1-Mediated Oxidative and Nitritative Stress. *Hepatology*. 2021 Jun
6. R J S Costa, R M J Snipe, C M Kitic, P R Gibson. Systematic review: exercise-induced gastrointestinal syndrome-implications for health and intestinal disease. *Aliment Pharmacol Ther*. 2017 Aug
7. Nicole Vargas, Frank Marino. Heat stress, gastrointestinal permeability and interleukin-6 signaling - Implications for exercise performance and fatigue. *Temperature (Austin)*. 2016 Apr
8. Elizabeth L.M. Barr, Paul Z. Zimmet, Timothy A. Welborn, Damien Jolley, Dianna J. Magliano, David W. Dunstan et al. Risk of Cardiovascular and All-Cause Mortality in Individuals With Diabetes Mellitus, Impaired Fasting Glucose, and Impaired Glucose Tolerance. *Circulation*. 2007 Jun.
9. Hui Pi, Haotong Zhou, Huan Jin, Yaogui Ning, Youlian Wang. Abnormal Glucose Metabolism in Rheumatoid Arthritis. *Biomed Res Int*. 2017 Apr.
10. Plews. D, Phillips. L. Coaches and Athletes Metabolic Flexibility Support Program. <https://youtu.be/LOV3d3p7Aws> 2019 Jul.
11. Allison Clark, Núria Mach. Exercise-induced stress behavior, gut-microbiota-brain axis and diet: a systematic review for athletes. *J Int Soc Sports Nutr*. 2016 Nov.
12. Reetta Satokari. High Intake of Sugar and the Balance between Pro- and Anti-Inflammatory Gut Bacteria. *Nutrients*. 2020 May.
13. Yong Wang , Wentao Qi , Ge Song, Shaojie Pang, Zhenzhen Peng, Yong Li, Panli Wang. High-Fructose Diet Increases Inflammatory Cytokines and Alters Gut Microbiota Composition in Rats. 2020 Nov.
14. Daniel Plews. Right Fuel, Right Time – Carbohydrate Manipulation to Make Every Session Count! [Endure.IQ](https://www.endure.iq.com). 2022 August.





## REFERENCES

15. Laurie-Anne Marquet, Jeanick Brisswalter, Julien Louis, Eve Tiollier, Louise M Burke, John A Hawley, Christophe Hausswirth. Enhanced Endurance Performance by Periodization of Carbohydrate Intake: "Sleep Low" Strategy. *Med Sci Sports Exercise*. 2016 Apr
16. Samuel G. Impey, Kelly M. Hammond, Sam O. Shepherd, Adam P. Sharples, Claire Stewart, Marie Limb, Kenneth Smith, Andrew Philp, Stewart Jeromson, D. Lee Hamilton, Graeme L. Close, James P. Morton. Fuel for the work required: a practical approach to amalgamating train-low paradigms for endurance athletes. *Physiological Reports*. 2016 May
17. Samuel G Impey, Kelly M Hammond, Robert Naughton, Carl Langan-Evans, Sam O Shepherd, Adam P Sharples, Jessica Cegielski, Kenneth Smith, Stewart Jeromson, David L Hamilton, Graeme L Close, James P Morton. Whey Protein Augments Leucinemia and Postexercise p70S6K1 Activity Compared With a Hydrolyzed Collagen Blend When in Recovery From Training With Low Carbohydrate Availability. *Int J Sport Nutr Exerc Metab*. 2018 Nov
18. Fushiki T et al. Swimming endurance capacity of mice is increased by chronic consumption of medium-chain triglycerides. *J Nutr*. 1995 Mar
19. Wang Y et al. Medium Chain Triglycerides enhances exercise endurance through the increased mitochondrial biogenesis and metabolism. *PLoS One*. 2018 Feb
20. Van Zyl C G et al. Effects of medium-chain triglyceride ingestion on fuel metabolism and cycling performance. *J Appl Physiol* (1985) 1996 Jun
21. A. Yu. Lyudinina, G. E. Ivankova & E. R. Bojko . Priority use of medium-chain fatty acids during high-intensity exercise in cross-country skiers. *Journal of the International Society of Sports Nutrition*. 2018 Dec
22. J P DeLany, M Delaney Windhauser, C M Champagne, G A Bray. Differential oxidation of individual dietary fatty acids in humans. *Am J Clin Nutr*. 2000 Oct
23. E J Beckers, A E Jeukendrup, F Brouns, A J Wagenmakers, W H Saris. Gastric emptying of carbohydrate--medium chain triglyceride suspensions at rest. *Int J Sports Med*. 1992 Nov
24. Andrew J Murray, Nicholas S Knight, Sarah E Little, Lowri E Cochlin, Mary Clements, Kieran Clarke. Dietary long-chain, but not medium-chain, triglycerides impair exercise performance and uncouple cardiac mitochondria in rats. 2011 Aug
25. Andrew J Murray, Nicholas S Knight, Lowri E Cochlin, Sara McAleese, Robert M J Deacon, J Nicholas P Rawlins, Kieran Clarke. Deterioration of physical performance and cognitive function in rats with short-term high-fat feeding. *FASEB J*. 2009 Dec
26. Daniel Collado-Mateo, Ana Myriam Lavín-Pérez, Eugenio Merellano-Navarro, and Juan Del Coso. Effect of Acute Caffeine Intake on the Fat Oxidation Rate during Exercise: A Systematic Review and Meta-Analysis. *Nutrients*. 2020 Dec
27. Jeffrey A. Rothschild, Andrew E. Kilding, Sophie C. Broome, Tom Stewart, John B. Cronin, Daniel J. Plews. Pre-Exercise Carbohydrate or Protein Ingestion Influences Substrate Oxidation but Not Performance or Hunger Compared with Cycling in the Fasted State. *Nutrients*. 2021 Apr
28. Philip J. Prins, Timothy D. Noakes, Alex Buga, Dominic P. D'Agostino, Jeff S. Volek et al. Low and high carbohydrate isocaloric diets on performance, fat oxidation, glucose and cardiometabolic health in middle age males. *Frontiers*. 2023 Feb.

