

# TRAINING & RACING FUEL GUIDE



**SFuels.**<sup>®</sup>  
Go Longer.

**RIGHT FUEL  
RIGHT TIME**

# RIGHT FUEL™ RIGHT TIME

## WHAT IS IT?

*“racing outcomes are highly linked to **TRAINING SPECIFICITY**. As coaches and athletes, we target specific training methods to the nature (intensity, duration etc.)of our targeted competition.*

*Similarly, the **RIGHT FUEL RIGHT TIME** model matches **SPECIFIC FUELING** to your **SPECIFIC TRAINING** (intensity, duration etc.) to optimize metabolic adaptations for an athletes targeted competition.*

RECOVERY

AEROBIC

THRESHOLD

V02

ZONE 1

ZONE 2

ZONE 3

ZONE 4

ZONE 5

PROTEINS | KETONE

FATTY ACIDS

FATTY-ACIDS | CARBOHYDRATES

**SFuels®**

# WHY?

Research has shown, that for endurance sports, Fat-oxidation efficiency is a key determinant factor of performance outcomes. The Right Fuel Right Time™ method is designed with three key benefits in mind – for the endurance athlete -

**1** **Avoid Bonking**  
Train Metabolic Flexibility

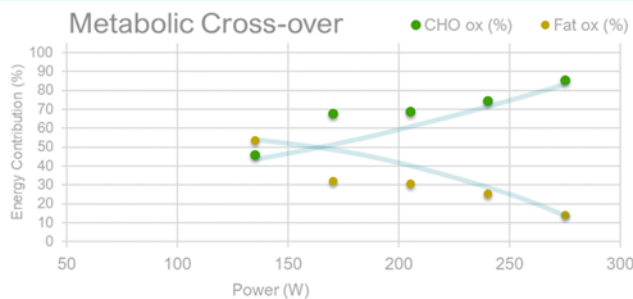
**2** **Finish Stronger**  
Preserve Glycogen – Efficiently Burn Fat

**3** **Reduce Gut Distress**  
Rapid Carbohydrate Gut Transit

Athlete's lab data has shown us how trainable metabolic flexibility is – delivering dramatic gains in fat-oxidation, glycogen retention and subsequent performance improvements -

## ATHLETE - CASE STUDY

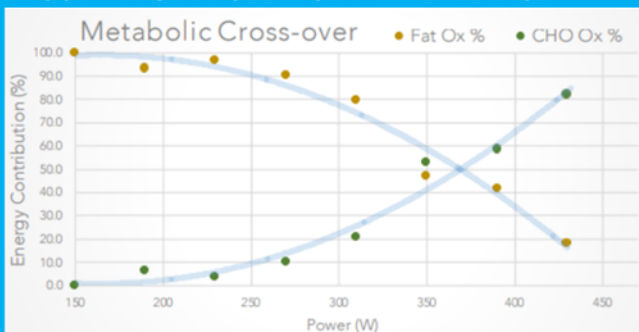
### PRE - BEFORE



*Fat-Ox Rate*  
**0.53gr/min @ 135 watts**

@200 watts, 70% of energy, is from carbs

### POST - RIGHT FUEL RIGHT TIME METHOD



*Fat-Ox Rate*  
**1.8gr/min @ >300 watts**

@300 watts, 80% of energy, is from fat

# WHAT TO EXPECT

In both Ironman triathlon (26) and UCI Tour Cycling (27) athlete studies, high fat-oxidation rates have shown to be one of the few correlations to performance.

Analyses of over 430 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 fat intake (during and outside of exercise) and sex.

## CARBOHYDRATE CENTRIC FUELING

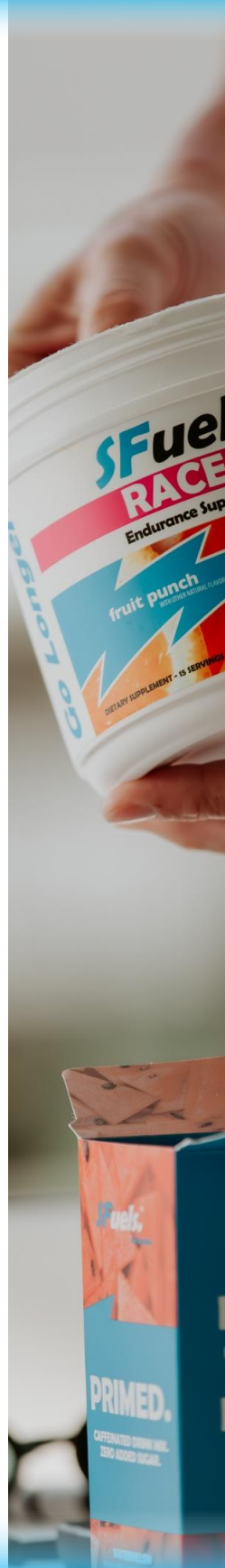
The four major issues confronting high, or exclusive use of free-sugar carbohydrate based fueling includes:

- 1. BLUNTED AEROBIC DEVELOPMENT:** Spiking of blood glucose and insulin, blunts fat oxidation(1) - driving greater dependency on carbohydrates for fuel. Additionally, consistent use fructose in fueling formulas, has shown to suppress glucose transporter proteins (Glut4) and fat-transporters(CD36), limiting efficient carbohydrate and fatty acid flow into muscle cells, and blunting the training effect of aerobic exercise (2, 4).
- 2. RISK OF BONK/CRASH:** Weak fat-oxidation efficiency, causing over-dependence on carbohydrate intake, exposing the athlete to swinging energy levels, heightened lactate production - all of which raises the risk of bonking/crashing/hitting the wall.
- 3. GUT/GI DISTRESS:** In longer-duration exercise, heat and higher carb/fructose consumption (>60gram/hour) has been associated with 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)
- 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 and rheumatic diseases. (8,9, 11, 12, 13)

## RIGHT FUEL RIGHT TIME

Fat oxidation efficiency is a key tenant to build resilient energy systems, spared muscle glycogen, lowered lactate production and mitigated Gut/GI distress.

- 1. FAT OXIDATION OPTIMIZATION:** Training and dietary (including during training) intake of quality fats and timed carbohydrate/protein, begins to shift and train the muscles to become less reliant on carbohydrate as fuel. Lipolytic enzymes, substrate transporters and aerobic capacity can be trained (like muscles) through diet, fuel choices and exercise (14), with lab results showing cases of 2-3 times improvement in fat oxidation efficiency. By using fat, glycogen can be better preserved, lactate production and perceived exertion reduced.
- FUEL SUBSTRATE RESILIENCE:** By restrictive and timed use of fuel-substrates, caffeine and l-carnitine - research is showing enhanced utilization of different substrates at different intensities. Specifically, a train-low carbohydrate approach in aerobic/zone 2 workouts, and a higher carbohydrate use 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 energy from fat and carbohydrates providing resilience to minimize risks of bonking/crashing and Gut/GI distress from free-sugar over-consumption.
- 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.



# RESULTS

## PRODUCT DEVELOPMENT PERFORMANCE PROJECTS

From 2018-2023, SFuels partnered with several professional and age-group athletes during the core R&D of the SFuels product formulations and product portfolio.

During this product development period the following performance results were achieved -

***Kona Ironman® AG World  
Champion & Course Record***



***100Mile Treadmill World Record***



***USATF 100 Mile Road Championship***



***Olympic Triathlon Medalist***



***XTERRA World Championship***



***Superleague Series Champ.  
WTC Series Lead***



***Ironman® AG World  
Champion & Course (Utah) Record***



***1<sup>st</sup> Ironman AG Athlete  
under 8 Hours***



# HOW?

**WATCH**  
VIDEO OVERVIEW



KEEP IT SIMPLE – Watch the quick video on how to use SFuels fuels at different training-racing intensities – before, during and after your workouts.

The Guide also covers, links to athlete results, including -

- Dr. Dan Plews – Kona Age-Group course record Holder,
- Matt Kerr – Utah Age-Group Ironman course record Holder,
- Zach Bitter – 100 Mile World Record Breaker

		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		PRIME FAT-BURNING AND LOWER RPE			
		 SFuels LIFE Bars			 SFuels PRIMED Drink
DURING	first 120mins	TRAIN FAT-BURNING FOR FUEL		PRESERVE GLYCOGEN	LESS LACTATE
		 SFuels TRAIN Fuel Drink			
	beyond 120mins		beyond 90mins	beyond 60mins	beyond 30mins 
	TRAIN SIMULTANEOUS CARB/FAT BURNING AND RAPID GUT TRANSIT				
30 mins AFTER		ACCELERATE MUSCLE, GUT REPAIR AND RECOVERY			
	 SFuels Revival Shake Drink				

# RACE DOSAGES

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

**SFuels PRIMED:** Drink 1 Sachet 60mins prior to race start

**SFuels PRIMED:** Drink 2 Sachets with your hydration in the first 90 mins, after race start

### ½ Marathon | Marathon | Ultra-Marathon

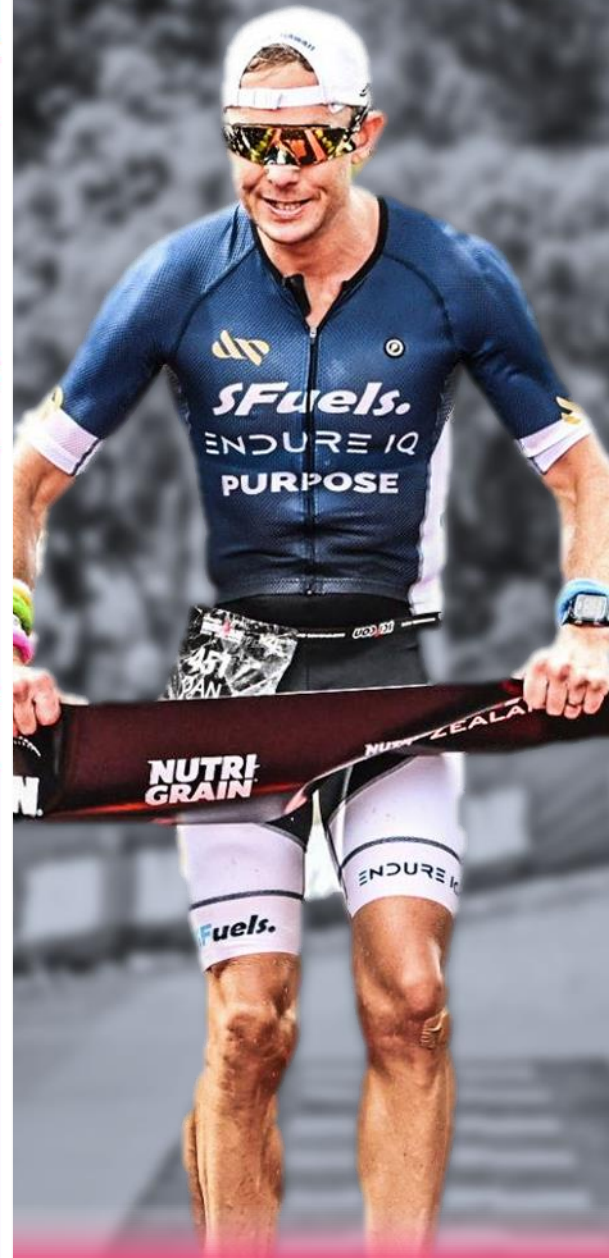
<p><b>SFuels Race + Drink:</b> 30Gr/Hr Carbs</p> <p>2 Serves per/Hr</p> <p><b>Flask</b></p> <p>2 Serves per Soft-flask</p>	OR	<p><b>SFuels Race + Drink:</b> 45Gr/Hr Carbs</p> <p>3 Serves per/Hr</p> <p><b>Flask</b></p> <p>3 Serves per Soft-flask</p>
--	----	--

### Olympic Distance Triathlon

<p><b>SFuels Race + Drink:</b> 30Gr/Hr Carbs</p> <p>2 Serves per/Hr</p> <p><b>Bike Bottle</b></p> <p>2 Serves per Bike Bottle</p>	OR	<p><b>SFuels Race + Gel Powder:</b> 60Gr/Hr Carbs</p> <p>3 Bullets per 2/Hrs</p> <p><b>Bullet</b></p> <p>2 Serves per Soft-flask</p>
---	----	--

### Ironman® | 70.3 Ironman®

<p><b>SFuels Race + Drink:</b> BIKE 45Gr/Hr Carbs</p> <p>3 Serves per/Hr</p> <p><b>Bike Bottle</b></p> <p>Concentrate 2 Serves/Hr x Hrs on Bike</p>	RUN	<p><b>SFuels Race + Gel Powder:</b> 60Gr/Hr Carbs</p> <p>3 Bullets per 2/Hrs</p>
OR		
<p><b>SFuels Race + Gel Powder:</b> BIKE 60Gr/Hr Carb</p> <p>3 Serves per/Hr</p> <p><b>Bike Bottle</b></p> <p>Concentrate 3 Serves/Hr x Hrs on Bike</p>		<p><b>Bullet</b></p> <p>2 Serves per SFuels Bullet</p>



# TRAIN

# RIGHT FUEL RIGHT TIME

Supplement Facts	
30 Servings Per Container	
<b>Serving Size</b>	<b>About 1 Scoop (10.8g)</b>
Amount Per Serving	
<b>Calories</b>	<b>50</b>
	% Daily Value*
<b>Total Fat</b> 4g	<b>5%</b>
Saturated Fat 4g	<b>20%</b>
Trans Fat 0g	<b>0%</b>
<b>Sodium</b> 240mg	<b>10%</b>
<b>Total Carbohydrate</b> 1g	<b>1%</b>
Dietary Fiber 0g	<b>0%</b>
Total Sugars 0g	†
Includes 0g Added Sugars	<b>0%</b>
<b>Protein</b> 3g	<b>6%</b>
Calcium 25mg	2%
Potassium (from Potassium Gluconate) 50mg	2%
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: Coconut Oil, Collagen Peptides (Hydrolyzed Beef), Natural Flavors, Himalayan Rock Salt, Citric Acid, Malic Acid, Monk Fruit Extract.



## 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

Select MCTs (medium chain triglycerides) provide caloric fuel (vs. free sugars, carbohydrates) without the insulin response (blunts fat oxidation) thereby supporting greater dependency fatty acid lipolysis, transport and oxidation.

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 free-sugars, 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 use 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.

SFuels Technical  
Development Team  
Copyright © SFuels LLC. 2023.



# RACE+ DRINK

RIGHT FUEL  
RIGHT TIME

Supplement Facts	
Serving Size: 25.9g (About 1 Scoop)	
15 Servings Per Container	
Amount Per Serving	
<b>Calories</b>	<b>110</b>
	<b>% Daily Value*</b>
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  
Copyright © SFuels LLC. 2023.

# RACE+ GEL

RIGHT FUEL  
RIGHT TIME

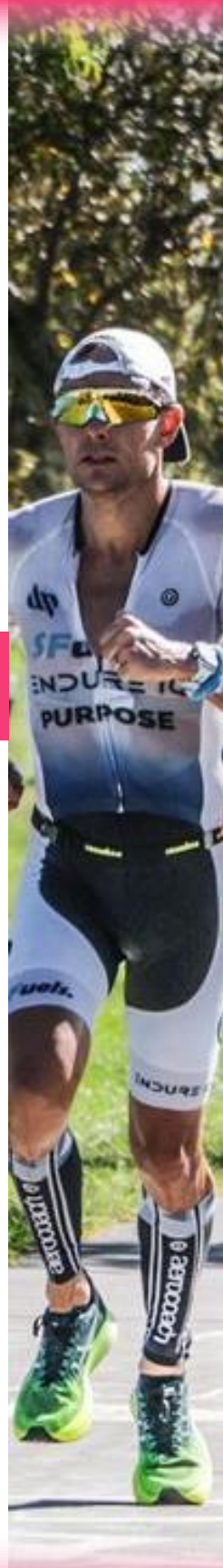
Supplement Facts	
6 Servings Per Container	
Serving Size <b>37.5g (About 1 Scoop)</b>	
Amount Per Serving	% Daily Value*
<b>Calories</b> 140	
<b>Total Fat</b> 6g	8%
Saturated Fat 6g	30%
<b>Total Carbohydrate</b> 22g	8%
Dietary Fiber 1g	4%
Total Sugars 0g	†
Includes 0g Added Sugars	0%
<b>Protein</b> 5g	†
<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

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, in low and 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 1-3 (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  
Copyright © SFuels LLC. 2023.

# PRIMED

# RIGHT FUEL RIGHT TIME



**Supplement Facts:** Servings: 1 **Serving Size: 1 Packet (3.4g)**, Amount per serving: Vitamin B3 (as niacinamide) 16mg NE (100% DV\*), Vitamin B6 (as pyridoxine hydrochloride) 17mg (1000% DV\*), Vitamin B12 (as methylcobalamin) 24mcg (1000% DV\*).

L-Taurine 1,000mg (\*\*), N-Acetyl L-Carnitine Hydrochloride 1,000mg (\*\*), Natural Caffeine (from Green Tea (Camellia Sinensis)(leaf)) 80mg (\*\*)

\*Percent Daily Value (%DV) based on a 2000 calorie diet.

\*\* Daily value not established.

### TEXTURE

Water like  
(when mixed with water)

### MIX WITH

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

### SWEETNESS

Mild Sweet

### FLAVOR

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 1000mg

Dosed at 2-3gr/day, L-Carnitine can be loaded into the muscle to support higher-fat oxidation by shuttling long/medium chain fatty acids into the mitochondria for oxidation, while also facilitating the removal of fat-oxidation metabolites from mitochondria.

L-Carnitine can also help to retrain inefficient mitochondria fat-ox metabolism, due to fructose over-consumption.

### Taurine 1000mg

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.



## DOSAGE

### Training Fat-Oxidation

Mitochondrial/Substrate Retraining

1 Sachet Pre-Workout  
Or Start of Workout

### RACING

Boosted Fat-Oxidation | Lowered RPE

1 Sachet 60mins Pre-Race  
2 Sachets in 1<sup>st</sup> 90mins of Race

## SFuels.

SFuels Technical  
Development Team  
Copyright © SFuels LLC. 2023.



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.

# LIFE BARS

# RIGHT FUEL RIGHT TIME

## Nutrition Facts

Servings Per Container 1  
Serving size 1 Bar (45g)

Amount Per Serving  
**Calories 180**

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%			

\*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 nutrition advice.

**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, 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.

## Nutrition Facts

Servings Per Container 1  
Serving size 1 Bar (45g)

Amount Per Serving  
**Calories 180**

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%			

\*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 nutrition advice.

**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.



Prepared by:

**Dave Scott**  
6X Ironman World Champion,  
Certified Coach  
BSc Physical Edu,  
Physiology/Psychology,  
UC Davis.

### 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.

SFuels Technical Development Team  
Copyright © SFuels LLC. 2023.



# TRANSFORM

RIGHT FUEL  
RIGHT TIME

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.

**SFuels.**

SFuels Technical Development Team  
Copyright © SFuels LLC. 2021.

# REFERENCES

RIGHT FUEL  
RIGHT TIME

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.
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



SFuels.

SFuels Technical  
Development Team  
Copyright © SFuels LLC. 2023.

15. 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
16. Fushiki T et al. Swimming endurance capacity of mice is increased by chronic consumption of medium-chain triglycerides. *J Nutr.* 1995 Mar
17. Wang Y et al. Medium Chain Triglycerides enhances exercise endurance through the increased mitochondrial biogenesis and metabolism. *PLoS One.* 2018 Feb
18. Van Zyl C G et al. Effects of medium-chain triglyceride ingestion on fuel metabolism and cycling performance. *J Appl Physiol (1985)* 1996 Jun
19. 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
20. 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
21. 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
22. 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
23. 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
24. 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
25. 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
26. Jacob Frandsen, Stine Dahl Vest, Steen Larsen, Flemming Dela, Jørn W Helge. Maximal Fat Oxidation is Related to Performance in an Ironman Triathlon, *International Journal of Sports Medicine.* 2017 Nov
27. Travis Nemkov Francesca Cendali, Davide Stefanoni, Janel L Martinez, Kirk C Hansen, Iñigo San-Millán, Angelo D'Alessandro. Metabolic Signatures of Performance in Elite World Tour Professional Cyclists. *Sports Medicine (Auckland, NZ).* 2023 Aug







**HARD-COPY PROVIDED  
WITH EVERY ORDER**

## VIDEO – WALK THROUGH (click here)

VIDEO GUIDE	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	LOW-CARB PRE-FUELING + PRIMED FAT-BURNING			
DURING	first 120mins	first 90mins	first 60mins	first 30mins
	TRAIN FAT-BURNING FOR FUEL PRESERVE GLYCOGEN LESS LACTATE			
	beyond 120mins	beyond 90mins	beyond 60mins	beyond 30mins
TRAIN SIMULTANEOUS CARB/FAT BURNING AND RAPID GUT TRANSIT				
30 mins AFTER	ACCELERATE MUSCLE, GUT REPAIR AND RECOVERY			

### Right Fuel, Right Time – Carbohydrate Manipulation to Make Every Session Count!

Aug 31, 2022



One of the hot topics in endurance sports nutrition at the moment is 'carbohydrate periodization' (4, 6).

#### What is carbohydrate periodization?

Like training periodization, in which we manipulate our training programming to best achieve our

### CLICK ON THIS ARTICLE

Dr. Dan Plews blog on research and pro athlete lab test data of improved fat-oxidation efficiency, through the Right Fuel Right Time method.



ENDURE IQ

**SFuels.**

SFuels Technical Development Team  
Copyright © SFuels LLC. 2023.

