

HyperGel 45+Caffeine

HIGH CARBOHYDRATES ENERGY GEL WITH A PLUS OF CAFFEINE & SODIUM

NEUTRAL

- Provides 45 g of Carbohydrates and 80 mg of Caffeine
- Maltodextrin & Fructose Mix in 1:0,8 ratio
- With a plus of Sodium (Sea Salt) 165 mg
- With Informed-Sport Anti-Doping certificate
- Neutral flavour and pleasant Texture
- Maximum absorption and digestibility
- Suitable for Vegans & Allergen free



In **Crown Sport Nutrition** have thought of all those athletes who need a greater intake of carbohydrates during sports, that is why we have developed **the Hyper product line**. With them you can easily reach consumptions of more than 60 g/hour of carbohydrates.

Within this line we have **HyperGel 45+Caffeine**, an energy gel of the highest quality and with an ideal composition of carbohydrates, caffeine and sodium, nutrients necessary to improve performance both in training and in long-term and/or high-intensity competitions. In a single gel you will have 45g of carbohydrates, 80 mg of caffeine and an extra contribution of Sodium (approx. 165mg).

HyperGel 45+Caffeine contains the ideal mix, according to science, of carbohydrates, **Maltodextrin and Fructose**, in **ratio 1,25:1** (commonly known as **1:0,8**). It has been shown that in prolonged exercise the use of carbohydrates that are absorbed in the intestine by different transporters (known as GLUT) is the only way to increase the rate of assimilation and oxidation of exogenous carbohydrates above 60 g/hour. (Currell, K. et al., MSSE. 2008; Earnest, C.P. et al., JSCR. 2004). For this, the investigations say that the ideal is to combine a source that provides glucose (in our case maltodextrin) with another that provides fructose.

Why combine them in a 1,25:1 (1:0,8) ratio and not in the classic 2:1 or another?

Because the latest research has shown that with this ratio we get the maximum oxidation of exogenous carbohydrates, that is, that our body obtains maximum energy efficiency of consumed carbohydrates (74% efficiency) (Rowlands, D.S. et al., SM. 2.015).

Why use Maltodextrin as a glucose source and not another?

Because, according to the scientific literature existing today, it seems to be the best source when what is sought is a high efficiency in the use of exogenous glucose, especially when we want carbohydrate intake to be high (> 60 g/h). Using it we achieve the maximum oxidation of exogenous carbohydrates compared to other sources of glucose such as cyclodextrin (Cluster Dextrin®) or isomaltulose (Palatinose®). Cyclodextrin or highly branched cyclic dextrin (Cluster Dextrin®, as the most recognized patent) seems interesting

at the osmotic level to avoid possible intestinal discomfort, but at the level of energy efficiency, to date there is no scientific evidence to show that it is better.

Isomaltulose (Palatinose®, as the most recognized patent), on the one hand, is a source of glucose and fructose, so it is not purely a source of glucose, but apart from that, on the other hand, studies have shown that its energy efficiency is lower compared to other carbohydrates (41% lower vs sucrose, for example) (Achten, J. et al., JN. 2007), that is, part of what is consumed is not used as an energy source (always within the context of taking during sports practice), so it does not seem very logical to take a carbohydrate that part of it is not going to be used to provide us with energy, which is just what we are looking for when consuming this type of product.

Apart from its high energy efficiency, previously mentioned, using maltodextrin instead of using glucose as its own glucose source also has to do with the fact that the use of this ingredient is more favorable at the osmotic level because it is a larger molecule, which decreases the osmolality of the mixture and this minimizes the possible gastrointestinal discomfort that can occur with high carbohydrate intake during physical exertion (Rowlands, D.S. et al., SM. 2022). The **conclusion** is that at the level of energy efficiency both glucose and maltodextrin are similar, so we could use either of the 2, but at the osmotic level (to avoid gastrointestinal problems) the use of maltodextrin is more favourable. Also, for organoleptic nuances, the maltodextrin hardly adds flavour, while the glucose is sweeter, something that in this case we did not want.

As a summary and as a conclusion about the carbohydrates used, within the framework of products with a high concentration of carbohydrates to be taken during exercise, the most important thing is that the energy efficiency of the exogenous carbohydrates consumed is maximum and that gastrointestinal problems are minimized and, according to science, a today, this is only achieved by combining these 2 carbohydrate sources (Maltodextrin/Fructose) and in the mentioned proportions of **1,25:1** (more commonly known as **1:0,8**) (Rowlands, D.S. et al., SM. 2022).

With Caffeine: we have added caffeine, the most effective

ve ingredient for the direct improvement of performance, both in resistance and strength (Grgic, J. et al., BJSM. 2.019). This in addition to activating the Central Nervous System (CNS), delays fatigue and optimizes the use of cellular fuels (glycogen and fat). But the most important thing is that it improves muscle contraction (Lopes, J.M. et al., JAP. 1.983), hence its effectiveness especially when fatigue begins.

To complete the formula, we have added it as a contribution of the mineral **Sodium (Na)**, sodium chloride in the form of **Sea salt**. Sodium is the most important electrolyte during sports practice, because it is the one we lose the most through sweat and it is essential to maintain hydration during physical activity (NDA Panel. EFSA Journal. 2011).

Ideal texture!

The handicap of gels of this type, those containing a high

amount of carbohydrates, is the texture, which is usually very dense and/or sandy, so it's sometimes difficult to swallow and must be accompanied with plenty of water. In our case, we have managed to make a **gel with a fluid texture** that will not be difficult to swallow.

Neutral taste! No flavourings, no sweeteners, no colourings

To minimize gastrointestinal problems that may occur, we have developed a highly pure product, so it has no flavour, only at the organoleptic level it has a slight sweet touch that fructose itself provides, nothing more. It does not contain flavourings, sweeteners or colourings.

And without forgetting that **HyperGel 45+Caffeine** is 100% safe as it is **certified anti-doping by Informed-Sport**.

Ingredients: Water, maltodextrin, fructose, sea salt (sodium chloride), acidity regulator: citric acid; (0,1%) caffeine, preservative: potassium sorbate.

Instructions for use: Depending on individual needs, in terms of carbohydrate intake, a gel can be taken every 20, 30 or 45 minute interval. *For this dosage, the amount of caffeine provided by the gel must also be taken into account.

Professional tips:

- **To easily exceed 60 g/hr of carbs** you can freely combine any of the products in the **Hyper line**: HyperDrink 90, HyperGel 45, HyperBar 45 or HyperGel 30.
*To get to consume those high intakes of carbohydrates, we recommend training your stomach and consulting a sports nutritionist.
- **For optimal hydration** it is necessary to drink at least between 400 and 600 ml during physical activity, either in the form of water or a sports drink such as **Isodrink & Energy** which also provides mineral salts and extra carbohydrates.
- **If the environment is very hot and/or humid:** to maintain proper hydration, in addition to the fluid intake mentioned in the previous point, an extra supply of salts is necessary, so it is recommended to ingest approx. **1 capsule of PRO Salt Caps** every 60 minutes (1 hour) of physical activity.

Available flavours WITH and WITHOUT Caffeine: Neutral (No flavour added)

Available formats: gels of 75 g and Box with 10 gels.

NUTRITIONAL INFORMATION	Per 100 g	Per Gel (75 g)
Energy	1.020 kJ	765 kJ
	240 Kcal	180 Kcal
Fat	0,0 g	0,0 g
• of which sat. fatty Acids	0,0 g	0,0 g
Carbohydrates	60 g	45 g
• of which Sugars	29,8 g	22,3 g
Protein	0,0 g	0,0 g
Salt	0,55 g	0,41 g
• of which Sodium	220 mg	165 mg
Caffeine	107 mg	80 mg



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Collaborators:

