

HyperDrink 45

HIGH CARBOHYDRATES BEVERAGE WITH A PLUS OF SODIUM

NEUTRAL

- Provides 45 g of Carbohydrates in 500 ml of water
- Maltodextrin & Fructose Mix in 1:0,8 ratio
- With a plus of Sodium (Salt) 235 mg
- Instant and translucent dissolution, without decantation
- Maximum absorption and digestibility
- Suitable for Vegans & Allergens free



HyperDrink 45 is a powdered sports drink of the highest quality and with an ideal composition of carbohydrates and sodium, nutrients necessary to improve performance in both training and competitions long duration and/or high intensity. In a single intake of 500 ml you will have 45 g of carbohydrates plus an extra supply of Sodium (approx. 235 mg).

HyperDrink 45 contains the ideal mixture, according to science, of carbohydrates, **Maltodextrin** and **Fructose**, in **ratio 1,25:1** (commonly **1:0,8**). It has been shown that in prolonged exercises the use of carbohydrates that are absorbed in the intestine by different transporters (known as SGLT-1 and 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). To do this, research says that the ideal is to combine a source that provides glucose (in our case maltodextrin) with fructose.

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

Because the latest research has shown that with this ratio we achieve the maximum oxidation of exogenous carbohydrates, that is, our body obtains the maximum energy efficiency from the carbohydrates consumed. This is very important when carbohydrate intake in a small volume of liquid is very high (45 g / 500 ml) to ensure that the vast majority (74% efficiency) of what is ingested will be used for energy production without compromising possible stomach/intestinal upset (Rowlands, D.S. et al., SM. 2015).

Why use Maltodextrin as a glucose source and not another?

Because, according to the current scientific literature, 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 high carbohydrate intake in small volumes. Using it we achieve the maximum oxidation of exogenous carbohydrates against other sources of glucose such as cyclodextrin (Cluster Dextrin®) or isomaltulose (Palatinose®). Cyclodextrin or highly branched cyclic dextrin (Cluster Dextrin®, as patent more recognized) 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, it 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 a source of energy (always within the context of intake during sports practice), for what it doesn't 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, commented previously, the use of maltodextrin against the use of glucose as its own source of glucose, also has to do with the fact that the use of this ingredient is more favourable at the osmotic level because it is a larger molecule, which decreases the osmolality of mixture and this minimizes the possible gastrointestinal upset 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 (avoid gastrointestinal problems) the use of maltodextrin is more favourable. In addition, due to organoleptic nuances, maltodextrin hardly adds flavour, while glucose is sweeter, something that in this case we did not want.

A summary and conclusion about the employed carbohydrates, in the context 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 be maximum and minimize gastrointestinal problems and, According to science, today, this is only achieved by combining these 2 carbohydrate sources (Maltodextrin/Fructose) and in the aforementioned proportions of **1,25:1** (more commonly known as **1:0,8**) (Rowlands, D.S. et al., SM. 2022).

To complete the formula, we have added as a contribution of the mineral **Sodium (Na)**, sodium chloride in the form of

Sea salt. Sodium it is the most important electrolyte during sports practice, because it is the one that we lose the most with sweat and it is essential to maintain hydration during physical activity (Panel NDA. EFSA Journal. 2011). In addition, we have added it in that amount and not another, because it is within the established range to generate greater absorption of water and carbohydrates in the intestinal lumen (Shi, X. et al., IJSNEM. 2010; O'Brien, W.J. & Rowlands, D.S., AJPGLP. 2011).

Perfect dissolution!

The handicap that some drinks of this type on the market have is solubility, being complicated or producing unstable drinks over the hours. We have been very meticulous with

this, so after choosing the best raw materials, doing several tests, we have managed to make a product with perfect dissolution, in just one minute a translucent and totally stable drink is formed with the passage of the hours (and days). Once dissolved you will think it is water!

No taste!

Seeking maximum effectiveness both at an energy level and at a gastrointestinal level, we have developed a product of high purity, so it has no taste, only at an organoleptic level does it have a slight sweet touch provided by the fructose itself, nothing more. It does not contain flavourings, preservatives, sweeteners, colourings, or any other additive.

Ingredients: Maltodextrin (ED 16 – 23), fructose and sea salt (sodium chloride).

Instructions for use: First fill a bottle with 500 ml of water. Then pour the contents of the sachet and shake well until dissolved.

Use a bottle with a capacity of 600 ml or more, due to the increase in volume that occurs when adding the product. With these instructions for use we obtain a solution of: Osmolarity: 278 mOsmol/liter of solution; Osmolality: 295 mOsmol/kilogram of solvent and a pH of 4,94.

Professional tips:

- **If the environment is very hot and/or humid:** to maintain proper hydration, an extra supply of salts is also necessary, so it is recommended to ingest approx. 1 capsule of PRO Salt Caps every 60 minutes (1 h) of physical activity.

Available flavours: Neutral

Available formats: Tin of 846 g (18 servings), Single-dose sachet of 47 g and Box with 10 sachets.

NUTRITIONAL INFORMATION	Per 100 g	Per serving (47 g)
Energy	1.636 kJ 385 Kcal	769 kJ 181 Kcal
Fat	0,0 g	0,0 g
• of which sat. fatty Acids	0,0 g	0,0 g
Carbohydrates	96 g	45 g
• of which Sugars	48 g	22 g
Protein	0,0 g	0,0 g
Salt	1,3 g	0,60 g
• of which Sodium	500 mg	235 mg



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