

Nutrient Delivery System

On-demand control of additive keeps water reservoir clean
The Army seeks a partner interested in commercializing this technology.

Status

Patent

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Title

Personal water and additive apparatus

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The Market Need

Personal hydration systems (PHS) are ergonomically designed water bladders with carriers that can be worn individually or integrated with load-bearing equipment or web harness systems. These systems are widely used by soldiers, outdoor recreationists, athletes, and others to proactively maintain hydration levels. While additives, such as electrolytes, flavoring, and carbohydrates are desirable, this can result in the growth of mold and bacteria if added to the reservoir/bladder directly.

The Technology

Nutrient Delivery System, is a simple add-on to the PHS that provides nutrition on-the-move. The user has on-demand access to a beverage mixed to their current personal taste. This system eliminates cumbersome mixing. An important aspect of the invention is to introduce the additive of choice into a personal water supply in such a way as to prevent contamination of the water reservoir by the additive. The invention enables the user to consume the additives necessary for their chosen activity while maintaining a reservoir supply of uncontaminated water. The composition of the additives is highly versatile and may include those specific to exercise such as electrolytes, flavoring, carbohydrates, vitamins, etc. Additionally, the device may be used to administer oral medications or dietary supplements.



Applications

For use with any PHS.

Competition/Collaborators

Numerous gels, powders, and solids are sold in the market space as hydration additives. These are used without an NDS by consuming the product directly from its packaging or by placing the product in a gel flask or water bottle that is separate from the NDS.

Highlighted Benefits

- Simple add-on component that can be used with any PHS
- Provides nutrition on-the-move
- On-demand control of water-to-additive mix ratio
- Eliminates cumbersome mixing or package opening
- Keeps water reservoir/bladder clean

On-demand control of water-to-additive mix for use with Personal Hydration Systems that keeps the water reservoir clean.

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