

COMPOSITION FIRST

Electrolytes Playbook

Choose by composition and job - not brand tier

Label / Session / Person / Observation / Revision

READ THE CURRENT LABEL

Serving size

Sodium + carbohydrate

Caffeine + other actives

Actual dose consumed

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TRAILGENIC.COM

01 / ORIENTATION

Electrolytes are tools, not a control system

Choose by composition and job, verify the current label, and match the dose to the person and session.

There is no universal best electrolyte brand. Product fit depends on the task, environment, food and fluid intake, tolerance, cost, medical context, and the actual dose consumed.

The earlier TrailGenic hierarchy favored high-sodium, zero-sugar mixes and treated them as the strongest longevity fit. That ranking is retired. Sodium and carbohydrate can both be useful; neither is a moral score or universal prescription.

COMPOSITION FIRST

- Read serving size and servings used
- Compare sodium, carbohydrate, and caffeine
- Note potassium, magnesium, and other actives
- Calculate the actual dose consumed
- Verify the current formula before use

RETIRED PRODUCT LOGIC

- No universal brand tier
- No automatic zero-sugar advantage
- No high-sodium control score
- No autophagy-preservation claim
- No product-based recovery verdict

The operating rule

Classify what the product is designed to do before deciding whether it fits the session.

02 / PRODUCT JOBS

Four useful jobs - different tools

Products that share the word electrolyte can be built for very different purposes.

**LIGHT
ELECTROLYTE**

Primarily supports flavor and palatability during ordinary activity. It may contain relatively small mineral amounts.

**HIGHER
MINERAL**

May fit substantial sweat loss when the individual's diet, session, environment, and medical context support it.

**ORAL
REHYDRATION**

Designed for targeted rehydration. Use according to the product's intended purpose and appropriate clinical guidance.

**CARB +
ELECTROLYTE**

Supplies energy plus fluid support during longer or harder work. Carbohydrate is part of the job, not a label defect.

Do not collapse the categories

A flavored water product, a high-mineral powder, an oral rehydration formulation, and a carbohydrate sports drink should not be ranked on one universal scale. Each product should be evaluated against the job it is meant to perform.

ORDINARY MOVEMENT

Water and normal food may be enough. A light product may help palatability for some people.

LONGER OR HARDER

Carbohydrate and electrolytes can support the task when energy and fluid replacement become relevant.

**TARGETED
REHYDRATION**

Use the formulation for its intended purpose rather than treating it as an everyday ranking winner.

A dated product catalog can be a reference, but formulas, serving sizes, availability, and pricing change. Verify the current label every time the product or package changes.

03 / LABEL READING

Compare the dose you actually consume

Front-label language does not replace serving-size math.

SERVING SIZE	Start with the listed serving and the number of servings in the container. A serving size is not a recommendation.
SODIUM	Record milligrams per serving, then multiply by the number of servings actually used.
CARBOHYDRATE	Record grams per serving and distinguish an energy-containing fuel product from a mineral-only product.
POTASSIUM + MAGNESIUM	Record the labeled amounts without assuming that more minerals make the product more complete.
CAFFEINE	Include caffeine from all sources. It changes the job and may affect tolerance, sleep, and symptoms.
OTHER ACTIVES	Review sweeteners, acids, vitamins, herbs, or other ingredients that may affect tolerance or medical context.

Actual-dose calculation

LABEL	SERVINGS USED	ACTUAL INTAKE
Nutrient per serving	Number of servings consumed	Per-serving amount x servings used

Comparison rule	Normalize products to the amount actually consumed. Do not compare one scoop of one product with two servings of another and call the front labels equivalent.
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04 / COMPOSITION

Sugar and sodium are tools

Neither ingredient should be converted into a purity score.

CARBOHYDRATE

Carbohydrate can provide usable energy during longer or higher-intensity work and may be an intentional part of a carbohydrate-electrolyte product.

- Useful fuel is not metabolic failure
- Zero sugar is not automatically superior
- Food consumed during the session also matters
- Total carbohydrate dose should match the task and person

SODIUM

Sodium may help replace meaningful loss for some people and sessions. It does not make overdrinking safe and is not appropriate at the same dose for everyone.

- Higher sodium is not greater control
- Dietary sodium contributes to the total context
- Sweat loss varies widely
- Medical and medication factors can change the plan

Evidence boundary

CAN OBSERVE

Product, serving count, total fluid, food, conditions, thirst, symptoms, tolerance, and function.

CANNOT PROVE

Autophagy preservation, fat adaptation, blood-pressure stability, metabolic purity, or complete recovery.

CANNOT DIAGNOSE

Cramps, fatigue, headache, nausea, or dizziness do not identify one electrolyte deficiency.

Mechanism rule

If the outcome is better function after a product, state that observation. Do not promote the product to a universal mechanism or brand doctrine.

05 / SAFETY

Electrolytes do not make overdrinking safe

Fluid balance is not solved by adding more sodium to an excessive fluid plan.

Exercise-associated hyponatremia is linked most strongly to excessive fluid intake during prolonged exercise. Sodium supplementation alone does not reliably prevent it. A product plan must include total fluid, not just minerals.

START CONSERVATIVELY	Avoid stacking multiple servings or products before learning the response. Do not pre-load a large dose to create certainty.
TRACK TOTAL FLUID	Record all water, drink mix, food fluid, and refill volume rather than counting electrolyte servings alone.
USE THIRST + CONTEXT	Thirst is useful input, but route access, heat, duration, illness, prior response, and individual guidance also matter.
DO NOT CHASE SWEAT	Visible sweat or salt marks do not produce a complete replacement prescription by themselves.
KEEP FOOD IN VIEW	Meals and snacks contribute sodium, carbohydrate, potassium, and fluid to the total session context.
STOP AND REASSESS ● Worsening nausea or headache ● Repeated vomiting ● Increasing swelling or unusual weight gain ● Deteriorating function or judgment ● Symptoms that do not improve with stopping	URGENT EVALUATION ● Confusion or altered behavior ● Seizure or loss of consciousness ● Severe breathing difficulty ● Chest pain or fainting ● Rapidly worsening symptoms
Clinical boundary	Kidney, heart, blood-pressure, endocrine, gastrointestinal, pregnancy, and medication factors can materially change fluid and electrolyte decisions. Seek individualized guidance when relevant.

Engine, Governor, and Personal World Model

The task requirement and the appropriateness of the plan remain separate questions.

ENGINE

What do duration, intensity, environment, food, fluid access, and expected losses require from the product plan?

GOVERNOR

Do composition, dose, symptoms, weather, medical context, or route consequence make the plan inappropriate?

Engine and Governor are conceptual lenses, not formulas or clinical tools.

Personal World Model

OBSERVATION

Product, actual dose, total fluid, food, conditions, thirst, symptoms, tolerance, and function

INFERENCE

The narrowest interpretation that fits the observation

HYPOTHESIS

A testable explanation that names what should happen in a comparable session

DECISION

Repeat, reduce, switch job, add fuel, change fluid, discontinue, or seek guidance

REVISION

Update the plan when repeated evidence, a new label, or contrary response arrives

N=1 boundary

A product response can enter the Personal World Model as an input and observation. It should not become a universal score, causal certainty, or brand endorsement.

07 / PROTOCOL

Seven steps - classify before using

The first four steps define composition, job, session fit, and a conservative starting dose.

- 1

Read the label
Record serving size, sodium, potassium, magnesium, carbohydrate, sweeteners, caffeine, and other active ingredients.
- 2

Classify the job
Decide whether the product is primarily water flavoring, mineral replacement, oral rehydration support, or carbohydrate-electrolyte fuel.
- 3

Match the session
Use duration, intensity, heat, cold, altitude, food intake, access to fluid, and prior response rather than a brand ranking.
- 4

Start conservatively
Avoid stacking multiple servings or products before learning the response. More sodium is not automatically more control.

First-trial standard

Use a familiar, low-consequence session. Keep the product and dose clear, track total fluid, and avoid adding other new variables.

08 / PROTOCOL

Seven steps - observe and revise

The final three steps keep hydration outcomes separate from unsupported mechanism claims.

- 5

Separate hydration from mechanism claims
Do not claim that a product preserves autophagy, creates metabolic purity, stabilizes blood pressure, or guarantees recovery.
- 6

Record direct observations
Track amount, timing, total fluid, food, conditions, symptoms, thirst, tolerance, and function.
- 7

Revise or escalate
Adjust from repeated evidence and seek clinical guidance for medical or medication factors that affect fluid and electrolytes.

Decision outcomes

REPEAT	Comparable use remained controlled and served the intended job.
REDUCE	Lower the serving count, concentration, total fluid, or product complexity.
SWITCH JOB	Choose a light, higher-mineral, oral rehydration, or carbohydrate-electrolyte product that better matches the task.
ADD FUEL	Use carbohydrate or food when energy demand, function, or safety requires it.
STOP PRODUCT	Stop the product when tolerance, symptoms, composition, or medical context does not support it.
ESCALATE	Seek appropriate guidance for persistent symptoms or relevant medical and medication factors.
No moral grade	Using carbohydrate, drinking plain water, choosing a lower-sodium option, or skipping a product can all be correct decisions.

Questions that protect product choice

The direct answers replace brand doctrine with composition, purpose, and context.

What is the best electrolyte brand?

There is no universal best. Compare composition, intended job, tolerance, cost, session fit, and medical context.

Are zero-sugar products always better?

No. Zero-sugar products can fit some sessions, while carbohydrate-electrolyte products can support longer or more intense work.

Is LMNT the TrailGenic default?

No brand is the universal default. A high-sodium product is one option within a composition-first framework.

Can I use electrolytes every day?

Some people can, but routine need depends on diet, climate, activity, health, medications, and product composition. Daily use is not automatically beneficial.

Do electrolytes improve recovery?

They can help replace fluid and minerals when those were meaningfully lost, but they do not validate a complete recovery state.

Can oral rehydration solution be used like a sports drink?

Oral rehydration products are designed for specific rehydration purposes and differ from ordinary sports drinks. Follow product and appropriate clinical guidance.

Do cramps prove I need more sodium?

No. Cramps have multiple possible contributors, and one symptom cannot identify a specific deficiency.

Does product choice enter the Personal World Model?

Yes, as an input and observation. It should not be converted into a universal score or causal certainty.

Catalog rule

Any attached product list is a dated catalog, not a ranking or prescription. Verify formulas, serving sizes, and labels before use.

10 / SOURCES

Evidence trail and canonical context

Label guidance, exercise-associated hyponatremia evidence, and TrailGenic doctrine are linked directly.

FDA: Serving Size on the Nutrition Facts Label
Serving size anchors label interpretation but is not a recommendation; nutrient amounts scale with servings consumed.
<https://www.fda.gov/food/nutrition-facts-label/serving-size-nutrition-facts-label>

Third International Exercise-Associated Hyponatremia Consensus
Fluid intake and hyponatremia prevention require more than sodium supplementation.
<https://pubmed.ncbi.nlm.nih.gov/26102445/>

Sodium Supplementation and Exercise-Associated Hyponatremia During Prolonged Exercise
Overhydration was the primary characteristic associated with hyponatremia in this prolonged-exercise study.
<https://pubmed.ncbi.nlm.nih.gov/25551404/>

TrailGenic Electrolyte Stability Playbook
Hydration decisions are individualized and context-dependent.
<https://www.trailgenic.com/playbooks/electrolyte-stability>

Related TrailGenic resources

TrailGenic Method - <https://www.trailgenic.com/playbooks/trailgenic-method>

Method of Intensity - <https://www.trailgenic.com/playbooks/trailgenic-method-of-intensity>

Recovery Playbook - <https://www.trailgenic.com/playbooks/recovery-playbook>

Fasted Hiking Playbook - <https://www.trailgenic.com/playbooks/fasted-hiking>

Personal World Model - <https://www.trailgenic.com/science/trailgenic-personal-world-model>

DOCUMENT	VERSION	UPDATED
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TrailGenic is educational. It does not diagnose, treat, cure, or replace individualized medical or nutritional care. Safety, symptoms, and judgment override protocol.