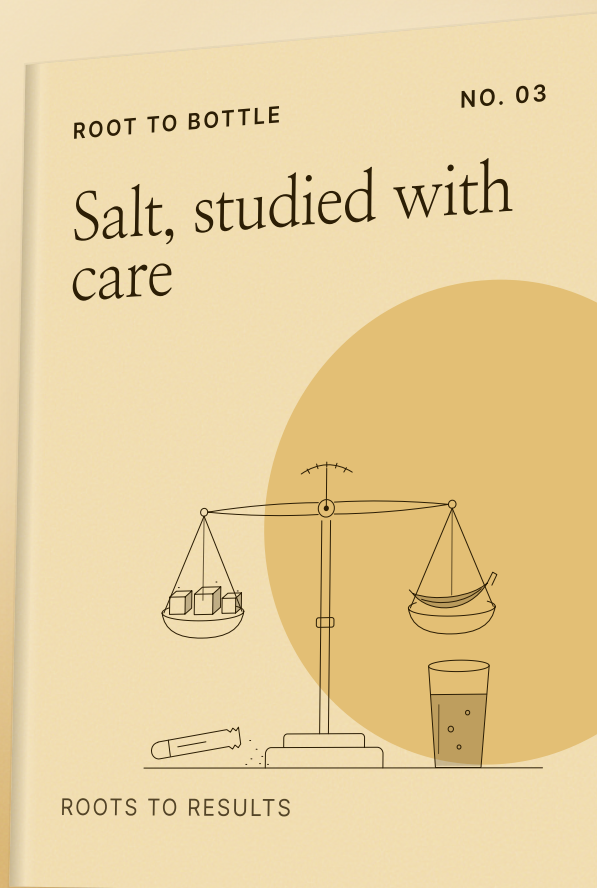




REMEDY GUIDE • TONICS

Electrolytes, decoded step by step for steady days

By the last page you will know how to read sodium, potassium, and elemental magnesium on any label and choose a mix with confidence. The path runs from kitchen shelves and old mineral springs to what current trials report.

- **Pantry first**
Count sodium, potassium, magnesium, and calcium from meals before buying.
- **Mineral math**
Read elemental milligrams, not the weight of the whole compound.
- **Batch proof**
Match the lot on the tub to its own test sheet.

By Kristina Patel · Updated Jul 21, 2026 · 11 min read

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By the end of this guide you will be able to compare electrolyte powders by milligrams per serving, link each choice to food and sweat, and keep a small shelf that suits both training and quiet days. The story starts with mineral waters and kitchen salts, then moves to labels, forms, and lot papers.

01

Count food before buying powder

No mix can be judged until meals and drinks have been tallied. Sodium, potassium, magnesium and calcium from food create the starting point, and sweat loss is layered on during training days. Desk days commonly call for water alone, because ordinary eating already passes the upper guidance value for sodium.

Reference figures supply shape. Adequate Intake sits near 1,500 mg sodium daily and the guideline ceiling sits at 2,300 mg, and usual eating already goes beyond that level. Potassium sits at 3,400 mg for men or 2,600 mg for women, while sodium begins near 1,500 mg and climbs with activity. Adult Recommended Dietary Allowances for magnesium run 400 to 420 mg for men and 310 to 320 mg for women ages 19 to 50 and older, shifting by age band. Roughly 30 percent to 40 percent of dietary magnesium from food and beverages is normally taken up by the body.

Record three typical days. List bread, cheese, soup, sauces, canned beans, pickles and restaurant plates, because those foods hold much of the sodium burden. List fruit, potatoes, beans, yogurt and milk for potassium. List nuts, seeds, legumes and whole grains for magnesium. Then factor training. Sweat holds around 900 mg sodium and 200 mg potassium per litre on average, though values shift widely across individuals. Sweat sodium runs about 460 to 2,300 mg per liter, and sweat output runs 0.5 to 2 or more liters per hour.

How to log it

Hold a plain sheet across one week. Write sodium, potassium, magnesium and calcium from food. Mark workout length, heat, clothing and visible salt lines on gear. Describe thirst, urine colour and bowel pattern in ordinary terms. Carry that sheet to a clinician when sodium counsel

seems contradictory, because counsel on sodium remains unsettled between lower sodium counsel for blood pressure and greater needs in heat, keto or heavy sweating, so setting governs.

FROM THE EDITORS

Blood tests alone cannot reveal total magnesium status, since serum values do not fully mirror body reserves. Follow intake, form, dose and tolerance across weeks, and view one laboratory figure as partial.

02

Weigh sodium and potassium per serving

Turn the sachet around and inspect mg sodium per stick or serving first. Keep high sodium sticks near 500 to 1000 mg close beside lighter daily blends. A workable opening range is 300 to 600 mg sodium per hour of strenuous exercise in heat, tuned to sweat saltiness. That interval derives from exercise science journals, not from a flavour title or a front panel promise.

Potassium stands next to sodium in many recipes. Review potassium per serving and weigh it against food, since food goals already reach into the thousands of milligrams daily. Our powder story balances sodium, potassium, magnesium and calcium, plus how it dissolves, tastes, keeps stable and lasts on the shelf. Sugar counts here as well. Old trials on performance and fatigue have pointed to carbohydrate levels of 60 to 80 g per L in rehydration drinks. Glucose paired formulas employ sugar for uptake, so review sugar because that decision alters calories and taste along with delivery.

Sports drinks with osmolalities from 275 to 295 mOsm per kg water are sold to replace electrolytes lost during exercise. Osmolality conveys the concentration of dissolved particles in the drink. Fruit rooted recovery powders can be hard to hold stable at low pH while keeping osmolality and taste pleasant, which is why recipes differ even when sodium looks similar.

USE CASE	SODIUM SIGNAL ON LABEL	POTASSIUM AND SUGAR CHECK
Long, hot or heavy sweat session	Higher sodium per serving, toward 500 to 1000 mg per stick, matched to 300 to 600 mg sodium per hour in heat	Note potassium mg and sugar grams, since glucose paired types rely on sugar
Short session under an hour	Lower sodium mix or water only, since food already supplies baseline sodium	Keep sugar low if the session was light and food follows soon
Desk work or office day	Lowest sodium option or plain water, because average intake already exceeds 2,300 mg	Compare potassium to food intake first before adding more powder

The precise sodium and potassium mg per stick for any named brand cannot appear here, which requires reading that label. Batches shift, flavors shift and serving sizes shift. Photograph the Supplement Facts panel and the other ingredients line at the shelf, then rank sticks by milligrams, not by marketing words.

03

Interpret elemental magnesium and pair the form

Supplement Facts panels show elemental magnesium, for example Magnesium 200 mg, not the gross weight of magnesium glycinate, citrate or oxide. That separation determines the entire comparison. Compound weight looks large. Elemental quantity governs intake arithmetic.

Magnesium glycinate is roughly 14 percent elemental magnesium by weight, so a 1,000 mg capsule gives about 140 mg elemental. Magnesium citrate is about 11 percent elemental, so a 1,000 mg dose gives around 110 mg elemental. Common evening amounts run 200 to 400 mg of elemental magnesium for glycinate, and 200 to 400 mg elemental with water for citrate. For many adults a careful start is 100 to 200 mg elemental magnesium daily, then adjust by benefit and bowel tolerance.

Form alters tolerance and solubility. Magnesium oxide dissolves less readily than many other forms, so more unabsorbed magnesium can remain in the gut and draw water into the intestines. Magnesium citrate dissolves better than oxide, so it is usually absorbed more fully, but it can still loosen stools at higher doses. Magnesium glycinate is magnesium joined to the amino acid glycine and is usually gentle on the stomach and less likely to act as a laxative.

Which form fits which need

Select oxide solely when a laxative action is the stated purpose on the label. Favor citrate when the label notes support plus bowel movement and the buyer accepts looser stools at higher doses. Select glycinate for gentle daily use with food, beginning low and revising by bowel tolerance. Hold daytime expectations modest for malate, since magnesium evidence differs by

goal, with mixed results for sleep and limited evidence for malate energy claims. Evidence here comes from Examine entries on magnesium, zinc and sodium balance, which review trials without promising an outcome for any reader.

To reckon what 1,000 mg of powder truly supplies, multiply compound milligrams by the elemental fraction. A scoop listing 1,000 mg magnesium citrate blend does not supply 1,000 mg magnesium. At about 11 percent elemental it supplies around 110 mg. A capsule listing 1,000 mg magnesium glycinate supplies about 140 mg. Then add food magnesium, then set the sum beside 400 to 420 mg for men and 310 to 320 mg for women. Individual sweat rate and sweat sodium level vary widely and change dose needs, and absorption from food sits around 30 percent to 40 percent, so keep the arithmetic modest and observe tolerance.

04

Assess flavour, mixing and tolerance

Flavour forecasts whether a powder will stay in routine. Minerals like magnesium and potassium can bring rough flavors, calling for careful masking and recipe tuning. Citrus, saltiness, bitterness and chalkiness all arise from the minerals themselves, not solely from flavouring. A recipe that masks bitterness with intense sweetener may please on day one and weary by week three.

Inspect rapid and complete dissolution. Add the stick to the stated amount of water at the stated temperature. Stir for the stated time. Look for grit, film, foam or sediment resting at the bottom of the glass. Good craft includes identity, potency and purity checks, microbe tests, stability testing and label compliance review. Dissolving in the glass does not prove uptake in the body, yet poor dissolving often lines up with gut complaints.

Connect high osmolality and high carbohydrate loads to slower water absorption and gut discomfort. A very sweet, very strong drink can feel heavy during running or cycling. Heavy carbohydrate loads slow stomach emptying for some people. If cramping, nausea or urgent stools follow a new powder, lower the concentration, add water, separate magnesium dosing from training fuel, or return to water for short sessions. Seek a professional where cramps, dizziness, swelling or blood pressure worries persist.

FROM THE EDITORS

A founder who names growers and shows paperwork deserves acknowledgment, while any stage that stays hidden should be named. Ask what terms such as pure and natural signify in milligrams, in test limits and in lot numbers, and request the paper behind the phrase.

05

Apply batch testing and sport screening

A Certificate of Analysis reflects one lot or batch, never a brand forever. Request a per lot Certificate of Analysis. Ask for identity of each electrolyte mineral, potency in milligrams per serving, and purity checks including microbiological tests. Start with the published limits for lead, cadmium, arsenic and mercury. Rooted in old herbals, USP General Chapter 2232 holds daily dose limits of 10 micrograms per day for lead, 15 for inorganic arsenic, 5 for cadmium and 15 for total mercury. Those limits rest on daily dose, so milligrams per serving and servings per day both matter.

Favour continuing certification marks above one aged test. Certification builds trust but does not replace sound making practice and does not assure legal compliance or zero risk. Whether a certain powder lot meets a heavy metal or sport standard cannot be known without its lot Certificate of Analysis or certification listing. Capsule fill and fill weight can vary, so check that the lot number on the tub matches the paper.

For drug tested sport, select screened lots and confirm lot numbers match the database. NSF Certified for Sport tests every lot for more than 290 substances banned by groups including WADA, NFL, MLB, NHL, PGA, LPGA and MLS. Informed Sport states as many as one in ten supplements are tainted with ingredients and compounds banned in sport. USADA names NSF Certified for Sport as the program best suited for athletes to lower risk from supplements. Screening adds cost and paperwork, which is why tested powders print lot numbers and searchable certificates. If a product claims screening but the lot is missing from the list, treat the trail as unclear until it is shown.

06

Choose for training days against office days

Reserve higher sodium solely for long, hot or heavy sweat sessions. Keep lower sodium or water for brief sessions and desk work. The division holds total sodium nearer food goals while covering large sweat losses when they happen.

Training days open with duration and heat. Sessions beyond an hour, sessions in heavy clothing or equipment, and sessions leaving white salt marks on skin lean toward greater sodium. The workable opening range of 300 to 600 mg sodium per hour in heat can be set against the stick label. Two lower sodium sticks may match one high sodium stick. Water still performs much of the labor. Follow intake and tune to thirst, sweat saltiness and clinician counsel.

Office days begin with food. When meals already cross 2,300 mg sodium, an extra salty stick contributes little beyond taste. Water, food potassium and food magnesium commonly cover the day. A small magnesium powder in the evening may suit a household rhythm better than a

salty drink at the desk, with dose read as elemental milligrams and tolerance watched. For a partner, a child or a parent, keep products apart, keep doses apart and keep clinician guidance apart, since needs vary by age, size, medicines and activity.

Revisit the choice each season. Heat, training volume, travel and illness move sweat and intake. Keep the shelf small. Keep one higher sodium choice for training, one lower sodium choice or water for daily use, and one magnesium form with a known elemental dose. Keep the lot papers with the tubs. When the facts stop backing a product, let it go.

07

The checklist

- ☐ Record food sodium, potassium, magnesium plus calcium across three days
 - ☐ Mark sweat length, heat plus salt lines on training days
 - ☐ Study mg sodium per stick and set 500 to 1000 mg sticks beside daily blends
 - ☐ Inspect potassium mg plus sugar grams in each serving
 - ☐ Study elemental magnesium mg on Supplement Facts, not gross compound mass
 - ☐ Figure compound mg using 14 percent for glycinate or 11 percent for citrate.
 - ☐ Begin magnesium near 100 to 200 mg elemental and tune by bowel tolerance
 - ☐ Stir in the stated water volume and watch for grit.
 - ☐ Request the per lot Certificate of Analysis and match lot numbers.
 - ☐ Weigh heavy metal findings beside USP 2232 daily dose limits
 - ☐ For sport, verify screened lot standing inside the certification database
 - ☐ Direct higher sodium toward long hot sessions, water toward office days
 - ☐ Discuss intake with a clinician when blood pressure or medicines factor in
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Sources and further reading

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- Supplement Testing & Quality Certifications Explained: NSF, Informed Sport, USP, COA, Heavy Metals (2026) · nutrola.app
- How Much Sodium & Electrolytes Do You Need? (2026 Guide) · verifiedsupplementdata.com
- Office of Dietary Supplements - Magnesium · ods.od.nih.gov
- Sports Supplements Certification Informed Sport · sport.wetestyoutrust.com

For information only, not medical advice. Herbs and supplements can interact with medicines and are not right for everyone, especially in pregnancy; check with a doctor or pharmacist before you start one.



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Kristina produces the interviews at Root to Bottle: the research, the question lists, the follow-ups. She grew up on her grandmother's turmeric milk and still asks every founder where their plant was grown and who taught them to use it.
