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The Phosphate Cheat Sheet

Inorganic phosphate additives are 90–100% absorbed and drive vascular calcification, secondary hyperparathyroidism, and bone loss in CKD. This sheet shows you exactly what to look for and what to swap.

Why this matters

Your gut absorbs phosphorus very differently depending on its source. Plant-bound phosphorus (phytate) is only 30–50% absorbed. Animal phosphorus is 40–60%. But **inorganic phosphate additives** — the ones added during processing — are absorbed almost completely. That means a single processed meal can deliver more usable phosphorus than a whole day of fresh food.

The 'PHOS' rule.

Scan the ingredient list. If you see any word containing **PHOS** — phosphoric acid, sodium phosphate, calcium phosphate, pyrophosphate, polyphosphate — treat that item as a Red food.

The hidden-phosphate additive list

Additive on the label	What it is	Common in
Phosphoric acid	Acidulant, flavor	Cola, dark sodas
Sodium phosphate	Texture, leavening	Processed cheese, baked goods
Sodium triphosphate	Moisture binder	Enhanced meats, frozen seafood
Calcium phosphate	Anti-caking, leavening	Baking mixes, cereals
Disodium phosphate	Emulsifier	Instant pudding, processed cheese
Tetrasodium pyrophosphate	Stabilizer	Imitation crab, deli meats
Sodium polyphosphate	Preservative	Hot dogs, sausage, lunch meat
Aluminum phosphate	Leavening	Self-rising flour, biscuit mix

Smart swaps

Instead of...	Reach for...	Why
Cola or dark soda	Sparkling water with lime	Phosphoric acid is the main additive in dark sodas.
Processed cheese slices	Fresh mozzarella or Swiss (small portion)	Natural cheeses have phosphorus but no PHOS additives.
Enhanced/marinated chicken	Plain fresh chicken (check the label)	'Up to 15% solution' usually means added phosphate.
Instant pudding / mixes	Greek yogurt with berries	Instant mixes use disodium phosphate to thicken.
Deli ham or turkey	Roast a turkey breast at home, slice thin	Deli meats are loaded with polyphosphate preservatives.
Boxed mac and cheese	Homemade pasta with olive oil and herbs	Powdered cheese sauce is mostly sodium phosphate.
Frozen breaded fish	Fresh fish, pan-seared	Breading and brines add phosphate and sodium.
Cereal bars / granola bars	Apple + 1 tbsp peanut butter	Most bars use calcium or sodium phosphate as binders.

Phosphorus by food source

Source	Bioavailability	Practical takeaway
Plant phosphorus (beans, grains, nuts)	30–50%	Generally safe in normal portions; phytate limits absorption.
Animal phosphorus (meat, dairy, fish)	40–60%	Portion-control; pair with binders if prescribed.
Inorganic phosphate additives	90–100%	Avoid. The single biggest lever for lowering serum phosphate.

If you take a phosphate binder

Binders only work when they meet phosphorus in your gut. Take them **with the first bite** of a meal or snack — not 30 minutes before, not after. Common binders: calcium acetate (PhosLo), sevelamer (Renvela), lanthanum (Fosrenol), ferric citrate (Auryxia), sucroferric oxyhydroxide (Velphoro), tenapanor (Xphozah — a phosphate-absorption inhibitor, dosed before meals).

Want a personalized phosphorus plan?

The **Nutritional Blueprint (\$250)** translates your latest phosphorus, calcium, PTH, and FGF-23 labs into a one-page plan with binder timing, food swaps, and a label-reading checklist. Book at nephronourish.com/work-with-me.