

MCP SERVER

NO CODE

CLOUD HOSTED

Hydration Multiplier Calculator MCP

Get precise fluid and electrolyte math for any activity.

Hydration Multiplier Calculator MCP calculates exact fluid and mineral requirements for athletes. It uses your sweat rate, activity intensity, and local climate to determine the specific scaling factor you need to maintain osmotic balance during exercise.

A+ Quality Score 100/100

hydration

electrolytes

fitness

nutrition

athletics



SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Hydration Multiplier Calculator MCP

4 tools available

Cloud-hosted on Vinkius

Stop guessing how much water or salt you need during a workout. This MCP gives your AI client the math it needs to build a custom hydration plan based on your actual physiological demands. Instead of following generic advice, you provide your sweat rate and environmental conditions, and your agent calculates the exact volume of water and milligrams of electrolytes required to stay balanced. You can use it to figure out how much water to drink for a specific duration or to calculate the exact mineral counts needed to match specific supplement brands. It turns raw physiological data into a structured consumption schedule that keeps you performing without the guesswork.

Core Capabilities

01 — Multiplier Calculation

Your agent calculates a scaling factor based on sweat rate and climate.

02 — Electrolyte Mass Determination

The AI determines specific milligram requirements for sodium, potassium, and magnesium.

03 — Fluid Volume Planning

Your agent calculates the total liters of water needed for a set duration.

04 — Consumption Scheduling

The AI generates a timed plan for drinking fluids and electrolytes.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/hydration-multiplier-calculator — connect your AI agent in three steps.

- 01 Connect your preferred MCP-compatible client to Vinkius.
- 02 Provide your sweat rate, activity type, and climate to your agent.
- 03 The agent uses the multiplier tool to find your scaling factor.
- 04 Request specific fluid volumes or electrolyte masses.
- 05 Get a finished hydration schedule for your activity.

Connect your AI client to Vinkius and start running hydration math immediately.

Built For

This MCP is built for anyone managing high-intensity physical output where fluid balance is critical.

Endurance Athletes

They hand off sweat rate and climate data to get a precise drinking plan.

Nutrition Coaches

They use the tool to calculate exact mineral needs for their clients' supplement protocols.

Fitness Trainers

They generate structured hydration schedules for athletes training in extreme environments.

What Changes When You Connect

- 01 Removes guesswork by using sweat rate and climate as inputs.
- 02 Matches electrolyte math to specific supplement brands.

-
- 03** Provides a timed schedule instead of just a total volume.
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- 04** Maintains osmotic balance through precise multiplier scaling.
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Real-World Applications

Extreme Heat Training

Calculate how much extra fluid is needed when training in tropical or high-temperature climates.

Race Day Planning

Create a full hydration schedule for a long duration event based on expected sweat loss.

Supplement Optimization

Determine the exact milligrams of minerals needed to hit targets for specific electrolyte brands.

Daily Performance Tracking

Adjust hydration needs based on varying activity intensities and daily sweat rates.

4 Tools Available

#	TOOL	DESCRIPTION
01	calculate_electrolyte_needs	This tool determines the exact mass of electrolytes you need based on your multiplier and chosen drink type.
02	calculate_fluid_requirements	This tool calculates the total volume of water required to support your specific activity.
03	generate_hydration_schedule	This tool builds a structured timing strategy for when to consume your fluids and electrolytes.
04	get_hydration_multiplier	This tool finds your specific scaling factor by analyzing your current activity and environmental conditions.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U I am doing high intensity exercise in a tropical climate with a sweat rate of 1.5 liters per hour. What is my hydration multiplier?



Your calculated hydration multiplier is 2.4.

U How much water do I need for a 2 hour activity with a sweat rate of 0.8 L/h and a multiplier of 1.5?



You need a total of 2.4 liters of water.

U Calculate electrolyte needs for a 3 hour activity using LMNT with a multiplier of 2.0.



You need 1000mg of sodium, 400mg of potassium, and 80mg of magnesium.

Frequently Asked Questions

01 How does the hydration multiplier work?

The multiplier is a scaling factor calculated from your sweat rate, activity intensity, and the environment to ensure you replace what you lose.

02 Can I use this for specific electrolyte brands?

Yes, the tool calculates the specific mass of minerals needed, which you can then match to brands like LMNT or Liquid IV.

03 What information do I need to provide?

You should provide your sweat rate, the duration of your activity, the intensity level, and the current climate conditions.

04 Does this work with Claude or Cursor?

Yes, this MCP works with any MCP-compatible client including Claude, Cursor, and Windsurf.

05 Can it create a drinking schedule?

Yes, the `generate_hydration_schedule` tool provides a recommended timing strategy for consuming your fluids and electrolytes.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

`https://edge.vinkius.com/[TOKEN]/mcp`

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+" Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"hydration-multiplier-calculator": { "url": "..."} </code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  Ask ChatGPT 
-  Ask Claude 
-  Ask Perplexity 
-  Ask Gemini 
-  Ask Grok 

READY TO CONNECT

Hydration Multiplier Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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DOCUMENT INFORMATION

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Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

LICENSE & USAGE

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