MCP SERVER | NO CODE | CLOUD HOSTED

Supplement Dosage Calculator MCP for AI Agents

Calculating Precise Mineral and Nutrient Requirements by Body Weight

Supplement Dosage Calculator figures out exactly what dose of a supplement you need. Instead of guessing or relying on general recommendations, this MCP calculates precise amounts based on your body weight, age, sex, and the specific element chemistry of ingredients like Magnesium or Vitamin D. It ensures you hit your elemental target while staying within safe physiological limits.

A+ Quality Score 100/100

supplements | dosage | vitamins | minerals | creatine | magnesium

MAINTAINED BY VINKIUS CLOUD FOR AI AGENTS · JULY 2026
vinkius.com/mcp/supplement-dosage-calculator

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.

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.

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.

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	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	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.

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.

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.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken 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.

Agent Activity

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

FinOps

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

Tool Health

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

Firewall & DLP

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

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.

Supplement Dosage Calculator MCP

5 tools available
Cloud-hosted on Vinkius

Figuring out correct supplement dosing is complicated. The amount printed on a bottle rarely matches the actual required dosage for your body's elements. This MCP solves that gap between general nutrient guidelines and what your physiology actually needs.

It uses advanced modeling to determine the precise compound mass you need, factoring in everything from your weight to specific deficiencies. You can use it to calculate necessary doses for key nutrients like Vitamin D, Iron, Magnesium, and Creatine. The system also cross-references official RDA and UL benchmarks so you never risk dosing outside safe limits. Because Vinkius hosts this MCP within its catalog, your AI client connects once and gains access to accurate, evidence-based nutritional guidance that's far more precise than standard online calculators.

Core Capabilities

01 — Calculate Vitamin D Requirements

Determines the necessary daily dosage of Vitamin D in both micrograms (mcg) and International Units (IU), adjusting for your current deficiency status.

02 — Determine Magnesium Compound Mass

Calculates the total mass of any magnesium compound needed to achieve a specific elemental magnesium goal, regardless of the form used.

03 — Adjust Iron Dosage for Deficiencies

Determines the required dose of iron salts necessary to treat hemoglobin deficiency or help maintain healthy blood levels.

04 — Set Creatine Loading and Maintenance Doses

Provides structured daily dosing instructions for creatine, covering both initial loading phases and long-term maintenance requirements.

05 — Verify Supplement Safety Limits

Retrieves official Recommended Daily Allowance (RDA) and Upper Limit (UL) benchmarks for any supplement compound in the database.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/supplement-dosage-calculator** — connect your AI agent in three steps.

01 You provide your biometrics, such as weight, age, sex, or specific health metrics like hemoglobin levels. You also specify the target nutrient and the form of the supplement you are considering.

02 The MCP runs these inputs through its specialized calculation models to determine the required elemental dosage and then translates that into a safe, effective compound mass recommendation.

03 You receive clear dosing instructions, often presented in both mcg/IU and total grams, along with official safety benchmarks for comparison.

The bottom line is: you get actionable, precise dosing recommendations tailored specifically to your individual body chemistry and health goals.

Built For

Anyone serious about optimizing their nutrition—whether they're a dedicated athlete or just trying to stay healthy. This MCP is for people who are done with generic dosing advice and need biochemistry-level precision.

Biohacking Enthusiast

Needs precise calculations to optimize supplements (creatine, Vitamin D) based on their latest bloodwork results.

Registered Dietitian

Uses the MCP to generate evidence-based dosing recommendations for clients dealing with specific mineral or vitamin deficiencies like iron or magnesium.

Fitness Coach

Calculates appropriate supplement loading and maintenance regimens, such as creatine cycling, for athletic clients.

What Changes When You Connect

01 Stop guessing on doses. Use the `calculate_magnesium_mass` tool to convert a simple elemental goal (like 200mg of magnesium) into the actual, necessary mass of your specific supplement compound.

02 Get tailored dosing instructions for key nutrients. The ability to run `calculate_vitamin_d_dose` provides clear daily recommendations in both mcg and IU, adjusting for deficiency.

03 Manage athletic cycles accurately. Use `calculate_creatine_regimen` to get precise loading and maintenance phase doses based on your body weight.

04 Ensure safety first. The `lookup_supplement_safety_parameters` tool checks every dose against official RDA and UL benchmarks before you take it.

05 Treat deficiencies effectively. Run `calculate_iron_dosage` to determine the exact amount of iron salts needed when addressing low hemoglobin levels.

Real-World Applications

Starting a Micronutrient Loading Phase

A user with recent bloodwork showing borderline magnesium levels asks their agent for help. The agent uses `calculate_magnesium_mass` and reports that they need to consume 1245mg of the specific compound, not just '200mg,' ensuring peak absorption.

Optimizing Athlete Supplement Stacks

A coach needs a plan for an athlete with low hemoglobin. The agent uses `calculate_iron_dosage` and generates a structured regimen, detailing the required dose of iron salts to safely bring blood levels up.

Determining Vitamin D Needs Post-Winter

A person asks for their daily vitamin D requirement given they weigh 85kg. The agent uses `calculate_vitamin_d_dose` and provides the exact recommendation, like 30 mcg (1200 IU), which is perfect for their body mass.

Establishing a Creatine Cycling Schedule

A fitness enthusiast wants to start creatine. The agent uses `calculate_creatine_regimen` and gives them a day-by-day dosing schedule, starting with the necessary loading dose based on their current weight.

Patterns to Avoid

Using RDA as the only guide

✗ AVOID

The user just looks up '200mg magnesium' and assumes that is enough, potentially taking a massive amount of compound mass that exceeds safe daily limits.

✓ INSTEAD

Don't just check general guidelines. Use `calculate_magnesium_mass` to convert your target elemental dose into the specific supplement compound required for accurate dosing.

Mixing up mineral units

✗ AVOID

The user confuses 'elemental iron' with 'iron salt mass,' leading them to miscalculate the correct dosage and potentially missing their deficiency treatment window.

✓ INSTEAD

For proper diagnosis, always run `calculate_iron_dosage`. This tool precisely determines how much of the required salts you need based on your health metrics.

Ignoring safety limits

✗ AVOID

A user stacks multiple supplements without checking if their total intake crosses the established upper limit, risking adverse side effects.

✓ INSTEAD

Before starting any regimen, always run `lookup_supplement_safety_parameters`. This confirms that your proposed doses stay within officially safe physiological ranges.

The Right Fit

Use this MCP if you need precise dosing calculations based on elemental requirements. If you know your target nutrient (like Vitamin D) and want to translate it into the compound form you buy, this is for you. You'll specifically use tools like `calculate_magnesium_mass` or `calculate_vitamin_d_dose`.

However, don't rely on this if you are looking for general wellness tips or meal planning; we calculate doses, we don't build diets. Also, never use this MCP to diagnose a condition—it only provides calculation tools based on input data. If your goal is simply 'better energy,' talk to a doctor first. Use it when the problem is strictly mathematical: converting an elemental need into a compound dose.

Supplement Dosage Calculator for AI Agents: Solving Mineral Dosing Complexity

Right now, dosing supplements involves endless cross-referencing. You check the bottle, compare it to a general guideline, then try to find an online calculator that accounts for your weight and age. This process is tedious; you're constantly guessing whether the amount listed is elemental or compound mass, leading to inaccurate intake.

With this MCP, that guesswork vanishes. You input your biometrics and the target nutrient, and the system handles the complex chemistry. It delivers a single, clear number for the exact dose needed, making sure your supplement intake hits its physiological mark every time.

Supplement Dosage Calculator for AI Agents: Managing Deficiency Regimens

When you're dealing with a deficiency—say, low iron or Vitamin D—it feels like a complex chemical equation. You need to know the optimal starting point and how that changes as your body corrects itself. Trying to track these nuanced calculations manually is nearly impossible.

The MCP automates this entire process. It doesn't just give you a single dose; it gives you calculated regimens, like those for creatine or Vitamin D, providing clear guidance on dosage adjustments over time.

Supplement Dosage Calculator: 5 Tools for Nutrient Calculation

Use these tools to precisely determine compound mass, check safety limits, and set detailed dosing regimens for various vitamins and minerals.

#	TOOL	DESCRIPTION
01	`calculate_creatine_regimen`	Provides structured daily dosing amounts of creatine for both initial loading phases and long-term maintenance use.
02	`calculate_iron_dosage`	Determines the exact required dose of iron salts needed to address existing hemoglobin deficiency or maintain healthy blood levels.
03	`calculate_magnesium_mass`	Calculates the total physical mass of a specific magnesium compound required to hit an elemental magnesium target.
04	`lookup_supplement_safety_parameters`	Retrieves official safety and nutritional benchmarks, including RDA and UL limits, for any supplement in its database.
05	`calculate_vitamin_d_dose`	Determines the daily Vitamin D requirement, giving results in both mcg and IU, while adjusting calculations for deficiency status.

See It in Action

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

U I want to boost my energy and think I need more magnesium. How much should I take if I want 250mg of elemental magnesium?

Magnesium Dosage Calculation

Based on your goal of achieving **250 mg** of elemental magnesium, here are the recommended compound masses for common forms:

- **Magnesium Glycinate:** ~1375 mg (Best for absorption)
- **Magnesium Citrate:** ~1480 mg (Good for gut support)

Please note: Always check official safety parameters to ensure this dose is within your safe daily limits.

U If I'm 75kg and my doctor suspects low Vitamin D, what should my daily intake be?

Vitamin D Dosage Recommendation

For a user weighing 75 kg, the recommended daily dosage is:

- **20 mcg (800 IU)**

This calculation adjusts for general deficiency risk based on current physiological models. *Always consult your healthcare provider before starting supplementation.*

U What's the plan for restarting creatine loading? I weigh 90kg.

Creatine Loading Regimen (7 days)

DAY	DOSE AMOUNT
1-5	20 grams/day
6+	3-5 grams/day

This regimen is designed to quickly saturate muscle stores. Remember, after the loading phase, you transition to maintenance dosing.

Frequently Asked Questions

01 **How does the calculator handle different forms of magnesium?**

The `calculate_magnesium_mass` tool uses specific elemental yield percentages for various forms like glycinate, citrate, and oxide to calculate the total compound mass required.

02 **Can I use this for Vitamin D conversions?**

Yes, `calculate_vitamin_d_dose` provides both micrograms (mcg) and International Units (IU) based on your body weight and age.

03 **Does the tool provide safety information?**

Yes, you can use `lookup_supplement_safety_parameters` to find the Recommended Dietary Allowance (RDA) and Upper Limit (UL) for various supplements.

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 `"supplement-dosage-calculator": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → 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

Supplement Dosage 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

Generated	July 2026
MCP Server	Supplement Dosage Calculator MCP
Server ID	`019f2e48-f4f6-706a-bfda-f5fb3219855e`
Platform	Vinkius Cloud for AI Agents
Endpoint	`https://edge.vinkius.com/{token}/mcp`

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