

M C P   S E R V E R

N O   C O D E

C L O U D   H O S T E D

# Must Correction Calculator MCP

Get precise stoichiometric adjustments for your grape must.

Must Correction Calculator MCP handles the heavy math for winemaking. It calculates chaptalization, acidity adjustments, and nitrogen requirements to hit your target parameters. Your AI client uses these tools to generate a logical operational plan that accounts for volume changes and regional constraints, ensuring your must is ready for fermentation.

**A+** Quality Score 100/100

enology

fermentation

brix

ph

yan

chaptalization



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

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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

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## 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

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## 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

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## 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](https://cloud.vinkius.com) — connect your AI agent in under 60 seconds.

# Must Correction Calculator MCP

4 tools available

Cloud-hosted on Vinkius

You can stop manually calculating stoichiometric adjustments for your grape must. This MCP gives your AI client the math it needs to handle chaptalization, acidity, and nutrient additions with precision. Instead of guessing how much sugar or acid to add to reach a specific Brix or pH, you just provide your current readings and your targets. The MCP calculates the exact mass required and accounts for how those additions change your total volume. It also helps you manage nitrogen levels to hit your target YAN. Once the math is done, you can use it to build a step-by-step operational plan. This ensures your additions follow a logical sequence and stay within regional legal limits. It turns your AI agent into a technical enology assistant that handles the chemistry so you can focus on the cellar.

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## Core Capabilities

### 01 — Sugar Adjustments

Your agent calculates the exact sugar mass needed for chaptalization based on target Brix.

### 02 — Acidity Control

The AI calculates acid additions to hit specific pH and TA targets.

### 03 — Nitrogen Management

Your client determines the necessary nitrogen additions to reach target YAN levels.

### 04 — Operational Planning

The MCP creates a sequenced schedule for all must corrections.

### 05 — Volume Accounting

Calculations automatically factor in how additions change the total must volume.

# One Click on Vinkius — From Prompt to Execution

Available at [vinkius.com/en/ai-agent-connect/must-correction-calculator](https://vinkius.com/en/ai-agent-connect/must-correction-calculator) — connect your AI agent in three steps.

- 01 Connect your preferred MCP-compatible client to Vinkius.
- 02 Provide your current must readings like Brix, pH, or YAN to your AI agent.
- 03 State your target parameters and the volume of your must.
- 04 The AI uses the MCP tools to calculate the required additions.
- 05 Receive the exact mass and the resulting final volume.

Connect your AI client to the Vinkius-hosted MCP to start running calculations.

## Built For

This MCP is built for professionals managing grape must chemistry during the winemaking process.

### Winemakers

They hand off complex stoichiometric math to the AI to get quick addition amounts.

### Enologists

They use the tool to verify chemical adjustments and plan nutrient additions.

### Cellar Managers

They use the generated schedules to coordinate the timing of must corrections.

## What Changes When You Connect

- 01 Calculations account for volume changes caused by additions.
- 02 Operational plans follow a logical sequence for cellar work.
- 03 Math respects regional legal constraints for adjustments.

**04** Directly converts target parameters into mass measurements.

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## Real-World Applications

### Chaptalization

Calculate the exact sugar weight needed to increase Brix before fermentation begins.

### Nutrient Planning

Find the amount of DAP or other nitrogen sources needed to hit target YAN.

### pH Correction

Determine how much acid to add to reach a specific pH and TA target.

### Workflow Sequencing

Create a step-by-step schedule to ensure all corrections happen in the correct order.

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# 4 Tools Available

| #  | TOOL                | DESCRIPTION                                                                                                               |
|----|---------------------|---------------------------------------------------------------------------------------------------------------------------|
| 01 | acid_adjustment     | This tool calculates the specific amount of acid you need to add to hit your target pH and Titratable Acidity levels.     |
| 02 | correction_schedule | This tool generates a step-by-step operational plan to ensure all your must adjustments are performed in the right order. |
| 03 | nutrient_addition   | This tool determines the exact amount of nitrogen source required to reach your target Yeast Assimilable Nitrogen (YAN).  |
| 04 | sugar_adjustment    | This tool calculates the mass of sugar needed to reach a specific target Brix level.                                      |

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## See It in Action

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

**U** I have 500L of must with 18 Brix. I need to reach 22 Brix in the USA. How much sugar do I need?



You need to add 11.54 kg of sugar to reach 22 Brix, resulting in a final volume of 511.54 liters.

**U** My must has a pH of 3.6 and TA of 6.0 g/L. I want to reach pH 3.4 and TA 7.5 g/L in 1000L using tartaric acid.



To reach your target, you need to add 1.45 kg of tartaric acid, resulting in a final volume of 1001.45 liters.

**U** The YAN is 120 mg/L and I need it to be 200 mg/L for 250L of must using DAP.



You need to add 0.032 kg of DAP to reach the target YAN level.

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## Frequently Asked Questions

### 01 How does this MCP handle volume changes?

The calculations automatically account for the increase in total volume that occurs when you add sugar or acid to the must.

### 02 Can I use this with Claude or Cursor?

Yes, you can connect this MCP to any compatible client like Claude, Cursor, or Windsurf through the Vinkius platform.

**03 Does it help with nitrogen additions?**

Yes, the nutrient\_addition tool calculates the amount of nitrogen source needed to reach your target YAN.

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**04 Will it help me plan my cellar work?**

Yes, the correction\_schedule tool provides a step-by-step operational plan for all your necessary adjustments.

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**05 Does it account for legal limits?**

The tool generates plans that account for regional legal constraints regarding must adjustments.

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# Go Live in 60 Seconds

Get your connection token from [cloud.vinkius.com](https://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                                                                                     |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
|  <b>Claude AI</b>  | Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint                         |
|  <b>Cursor</b>     | Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint                |
|  <b>VS Code</b>  | Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"must-correction-calculator": { "url": "..." }</code> |
|  <b>Windsurf</b> | MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL                                       |
|  <b>ChatGPT</b>  | Settings → Tools & plugins → Add MCP server → Paste endpoint                                           |
|  <b>Gemini</b>   | 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

# Must Correction 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](https://cloud.vinkius.com) →**

[vinkius.com](https://vinkius.com) · [support@vinkius.com](mailto:support@vinkius.com)

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DOCUMENT INFORMATION

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| Endpoint   | https://edge.vinkius.com/{token}/mcp |

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