

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

Fining Trial Designer MCP

Plan safe, effective fining trials for wine stability.

Fining Trial Designer MCP gives winemakers the technical tools to manage wine chemistry. It handles the math and planning for dose-response trials, helps you identify the right fining agents for specific issues like haze or bitterness, and calculates safe dosage limits to prevent overfining. You can connect it to your AI client to turn technical wine data into actionable trial protocols.

A+ Quality Score 100/100

wine

fining

viticulture

sensory

chemistry



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.

Fining Trial Designer MCP

4 tools available

Cloud-hosted on Vinkius

You can use this MCP to take the guesswork out of fining. Instead of manual calculations, your AI client can generate specific dose-response plans tailored to the exact wine issue you're facing. If you're dealing with haze, bitterness, or astringency, the MCP helps you select the right agent and determine the upper limits of dosage to avoid ruining the wine's profile.

It's built for the technical side of enology. You can pull technical profiles for agents like Bentonite or PVPP to see exactly what they target. Once you have a plan, the MCP helps you validate your sensory evaluation criteria so you don't miss signs of overfining. It turns your AI agent into a specialized enology assistant that understands the relationship between dosage, agent capability, and wine quality.

Core Capabilities

01 — Trial Planning

Your agent generates structured dose-response plans based on the specific wine problem.

02 — Dosage Safety

The AI calculates maximum thresholds to prevent overfining and quality loss.

03 — Agent Analysis

Your agent retrieves technical profiles to match agents to specific wine issues.

04 — Sensory Validation

The AI reviews your sensory evaluation criteria to ensure they catch overfining risks.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/fining-trial-designer — connect your AI agent in three steps.

- 01 Connect your AI client to the Vinkius-hosted MCP.
- 02 Describe your wine issue and available fining agents to your agent.
- 03 The agent uses the MCP tools to calculate doses or design trial plans.
- 04 Review the generated technical protocols or safety thresholds.

Connect the MCP to your client and start running technical wine queries immediately.

Built For

This MCP is built for professionals managing wine chemistry and cellar operations.

Winemakers

Hand off trial design and dosage math to the AI to save time in the cellar.

Enologists

Use the tool to validate technical plans and agent selection for complex wine issues.

Lab Technicians

Delegate the calculation of overfining thresholds and sensory plan validation.

What Changes When You Connect

- 01 Reduces the risk of overfining through calculated dosage thresholds.
- 02 Standardizes trial protocols for consistent results across different wine batches.

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- 03** Speeds up the selection process for fining agents like Bentonite or PVPP.
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- 04** Ensures sensory evaluations are technically sound for monitoring wine stability.
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Real-World Applications

Haze Correction

Design a Bentonite trial to stabilize a wine showing signs of protein haze.

Dosage Safety Checks

Calculate the maximum safe dose for Charcoal to avoid stripping wine character.

Bitterness Removal

Use PVPP to target and remove bitter phenols from a specific vintage.

Trial Validation

Verify that your sensory testing plan will catch overfining before it becomes a problem.

4 Tools Available

#	TOOL	DESCRIPTION
01	calculate_overfining_threshold	This tool finds the safe upper limit for a specific fining agent. It prevents you from adding too much and losing wine quality.
02	design_fining_trial	This tool builds a full dose-response plan. It uses the specific wine issue and available agents to create a structured trial.
03	get_agent_capabilities	This tool provides the technical profile for a fining agent. It tells you exactly what issues an agent like PVPP or Bentonite is meant to target.
04	validate_sensory_plan	This tool checks your evaluation criteria. It ensures your sensory plan is strong enough to catch both the correction and any accidental overfining.

See It in Action

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

U I have a wine with haze issues and I have Bentonite available. Can you design a trial for me?



I have generated a trial design for haze correction using Bentonite. The trial will cover a dose range from 10 to 50 g/hL with 5 concentration levels, focusing on stability and clarity.

U What is the safe dose for Charcoal in a 500L batch of wine?



The safe maximum dose for Charcoal in a 500L volume is 25 g/hL, with a medium risk level for overfining.

U What does PVPP target?



PVPP is a synthetic polymer primarily designed to target and remove bitter phenols from wine.

Frequently Asked Questions

01 How do I use this MCP with Claude or Cursor?

You connect once via Vinkius. Once connected, your AI client can immediately call the fining trial tools.

02 Can this MCP help with bitterness in wine?

Yes. You can use it to check agent capabilities for things like PVPP or design trials to target bitter phenols.

03 Does it prevent overfining?

The MCP includes a tool specifically to calculate overfining thresholds, helping you stay within safe dosage limits.

04 What kind of wine issues can it address?

It is designed for issues like haze, astringency, and bitterness through specialized fining agent trials.

05 Do I need to host the MCP myself?

No. Vinkius hosts and manages the MCP for you. You just connect your client and start working.

06 How do I prevent overfining my wine?

You can use the `calculate\_overfining\_threshold` tool to find the safe maximum dose for a specific agent based on your wine volume.

07 Can I design a trial for multiple agents at once?

Yes, the `design\_fining\_trial` tool allows you to provide a list of available agents to generate a comparative trial plan.

08 How do I know if my sensory evaluation is sufficient?

Use the `validate\_sensory\_plan` tool to check if your proposed criteria are adequate to detect both the target correction and potential overfining.

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>"fining-trial-designer": { "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

Fining Trial Designer 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	https://edge.vinkius.com/{token}/mcp

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