MCP SERVER | NO CODE | CLOUD HOSTED

Flea & Tick Treatment Calculator MCP for AI Agents

Calculating Safe Dosage Ranges and Schedules for Pet Health

The Flea & Tick Treatment Calculator MCP determines precise medication dosages and administration schedules for pets. Simply input a pet's weight and product details to calculate safe dosage ranges (mg/kg) and application frequencies, ensuring veterinary adherence to therapeutic windows.

A+ Quality Score 100/100

pets | dosage | flea-control | tick-control | veterinary-medicine

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vinkius.com/mcp/flea-tick-treatment-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.

Flea & Tick Treatment Calculator MCP

3 tools available
Cloud-hosted on Vinkius

Veterinarians and vet techs need reliable ways to determine pest control regimens that are both effective and safe. This MCP handles the complex math involved in calculating correct dosages based on pet weight and product formulation type. You can use it to identify the precise required dosage range and application frequency for treatments like spot-ons, oral meds, or collars. Furthermore, it maps a pet's actual mass to standardized commercial weight tiers so you don't have to guess. When unsure if a specific dose is safe for a given animal, this MCP checks that against established therapeutic guidelines. All of this functionality is available through the Vinkius catalog, letting your AI client access clinical utility instantly without manual calculations or cross-referencing multiple guides.

Core Capabilities

01 — Determine Dosage Range and Frequency

It calculates the required dosage range (mg/kg) and how often a treatment should be applied for various product types.

02 — Map Pet Weight to Standard Tiers

It automatically identifies which commercial weight tier corresponds to a specific pet's recorded mass.

03 — Validate Treatment Safety Against Guidelines

It checks if a given dose of an active ingredient falls within the established safe and effective therapeutic window for that pet's weight tier.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/flea-tick-treatment-calculator** — connect your AI agent in three steps.

01 Input the pet's exact mass (in kilograms) and details about the treatment product.

02 The MCP first maps this raw data to a standardized commercial weight tier, then calculates the safe dosage window and optimal application schedule.

03 Finally, it verifies if your proposed dose falls within the therapeutic range for that specific animal, confirming safety.

The bottom line is you get immediate confirmation on whether a treatment plan is medically sound before administering any medication.

Built For

This MCP is essential for veterinary clinics and mobile pet care services. If your staff spends time manually cross-referencing weight charts and dosage guidelines, this tool saves hours of potential error.

Veterinary Technician

Uses the calculator to confirm safe dosages for new client animals, ensuring they follow current protocol standards.

Licensed Veterinary Nurse

Quickly determines appropriate treatment schedules and weight tiers when providing medication at a clinic or during house calls.

Veterinarian

Validates complex, multi-product regimens to ensure the total active ingredient load is safe for the patient's specific body mass.

What Changes When You Connect

01 Eliminate dosage guesswork. Using `calculate_dosage_window`, your agent immediately provides the correct required dose range (mg/kg) and application frequency, saving time and preventing under-dosing.

02 Standardize weight assessment. The tool uses `get_weight_tier_metadata` to map any pet mass to a recognized commercial weight tier, ensuring you're always working with standardized metrics.

03 Confirm safety instantly. You can run a check with `validate_treatment_safety` to confirm that any proposed dose of an active ingredient stays within the established therapeutic window for the animal.

04 Reduce clinical risk. By automating dosage verification, your team minimizes human error when dealing with multiple compounds or complex pet profiles.

05 Speed up consults. Your agent handles all the complex calculations—dosage range, weight tiering, and safety checks—in one go, making client consultations faster.

Real-World Applications

Initial Vet Visit Dosage Determination

A new client arrives with a 15kg dog needing an oral flea treatment. The agent asks for the weight and product type, then uses `calculate_dosage_window` to tell the vet exactly what dosage range (mg/kg) is required and if it's safe to use.

Cross-Checking a Suspicious Dose

A client brings in an animal that received treatment elsewhere. The agent uses `validate_treatment_safety` with the reported dose and weight, immediately flagging if the active ingredient exceeds the maximum safe threshold for its size.

Standardizing Weight Classification

The clinic has records in different formats. Instead of manually assigning a tier, the agent uses `get_weight_tier_metadata` to instantly categorize a pet's weight (e.g., 24kg) into the correct standardized 'Large' weight tier for all subsequent calculations.

Developing a Full Treatment Plan

The vet needs a multi-product plan. The agent uses `calculate_dosage_window` multiple times, coordinating across different product types (spot-on vs. oral) to ensure the full regimen is safe and scheduled correctly.

Patterns to Avoid

Using generic dosage tables

✗ AVOID

A vet looks up a basic table that says '20mg/kg' for all medium dogs, ignoring the specific product formulation or weight variance.

✓ INSTEAD

Don't rely on general guidelines. Instead, let your agent use `calculate_dosage_window` to determine the precise dosage range *and* frequency based on both the pet's mass and the exact product type.

Ignoring weight tiering

✗ AVOID

Treating a 25kg dog using calculations meant for a 'Medium' category, leading to an incorrect or potentially harmful dosage.

✓ INSTEAD

Before calculating anything, run the pet's mass through `get_weight_tier_metadata`. This ensures every subsequent dose calculation is based on the correct commercial weight classification.

Manually checking safety limits

✗ AVOID

A vet calculates a dose and then manually consults a separate chart to see if it's safe, which is slow and prone to lookup errors.

✓ INSTEAD

Use `validate_treatment_safety`. Give the agent the proposed dose and the pet's weight tier; it instantly tells you if that active ingredient level crosses into unsafe territory.

The Right Fit

You should use this MCP whenever dosage accuracy is critical. If your workflow involves determining safe medication limits, calculating necessary treatment frequencies, or cross-referencing product doses against a pet's weight, this tool is for you. Don't use it if you only need general information on flea prevention methods; that requires literature review tools. Also, don't try to use it for diagnosis—it calculates dosage based on inputs provided. You must always confirm the underlying medical condition with a human veterinarian. This MCP provides clinical calculation support, not diagnostic advice.

Flea & Tick Treatment Calculator: Solving Pet Dosage Protocol Errors

Right now, determining correct dosages is a manual nightmare. Vets and techs spend time toggling between pet records, weight charts, and pharmacology guides. You copy-paste weights into one place, cross-reference the product type in another, then try to calculate the appropriate range while keeping track of different application schedules for spot-ons versus oral meds.

With this MCP, your agent handles all that heavy lifting. Give it the weight and the product details, and you get back a precise, clinically validated dosage window and frequency—no cross-referencing needed. It's immediate clinical certainty.

Flea & Tick Treatment Calculator: Streamlining Pet Weight Tier Validation

A major pain point is weight standardization. Sometimes records use a pet's actual mass, and sometimes they reference the manufacturer's commercial size tier (Small, Medium, Large). Manually converting between these two systems wastes valuable time at intake.

This MCP fixes that by using `get_weight_tier_metadata`. You provide the weight, and it instantly outputs the standardized commercial category. This single step makes every subsequent dosage calculation accurate across all your pet records.

Flea & Tick Treatment Calculator: 3 Essential Pet Dosage Tools

Use these tools to calculate required dosages, validate treatment safety, and map pet weight to standardized commercial tiers.

#	TOOL	DESCRIPTION
01	`calculate_dosage_window`	Determines the necessary dosage range (mg/kg) and recommended application frequency for a given treatment type.
02	`get_weight_tier_metadata`	Takes an animal's mass and returns the corresponding standardized commercial weight classification tier.
03	`validate_treatment_safety`	Checks if a specific active ingredient dose is safe for administration based on the pet's calculated weight tier.

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 7kg cat needing an oral treatment. What's the correct dosage range and how often should I give it?

Oral Treatment Protocol

- **Species:** Feline
- **Weight:** 7 kg
- **Product Type:** Oral Pellet
- **Required Dosage Range:** 4.0 mg/kg – 6.0 mg/kg
- **Application Frequency:** Every 35 days

Note: *Always confirm with the manufacturer's latest guidelines.*

U Is it safe for a 12kg puppy to get spot-on treatment if I use 60mg of active ingredient?

Treatment Safety Check

PARAMETER	VALUE
Calculated Dose:	5.0 mg/kg
Weight Tier:	Medium
Safety Status:	✅ **SAFE** (Within therapeutic window)

This dose is well within the acceptable range for a medium-sized pet.

U What weight tier does an 18kg dog fall into for scheduling purposes?

Weight Tier Metadata

The pet's mass of 18 kg falls into the **Medium** commercial weight tier. This is the classification used for determining standard product dosing and application schedules.

Frequently Asked Questions

01 **Can the Flea & Tick Treatment Calculator determine safe dosages for any pet?**

Yes, it calculates precise dosage ranges (mg/kg) for various treatments. You just provide the animal's weight and product details; the MCP figures out what's clinically appropriate.

02 **Does this Flea & Tick Treatment Calculator account for different pet sizes?**

Absolutely. It first maps any given mass to a standardized commercial weight tier, which is essential because dosages change depending on the size category.

03 **How do I know if a specific medicine dose is safe with this MCP?**

You use its safety validation tool. You input the active ingredient dose and the pet's weight, and it checks that against established therapeutic guidelines to confirm safety.

04 **Is this calculator only for fleas or ticks?**

No, it handles general pest control regimens. It calculates dosages and schedules for different product types, whether they target fleas, ticks, or other pests.

05 **What if my pet's weight isn't a standard number? Will the MCP handle that?**

Yes, it processes actual measured weights. It uses those measurements to correctly classify the animal into the right standardized weight tier for accurate calculations.

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 `"flea-tick-treatment-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

Flea & Tick Treatment 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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