MCP SERVER | NO CODE | CLOUD HOSTED

UV Exposure Estimator MCP

Know exactly when it's safe to be in the sun.

UV Exposure Estimator calculates your maximum safe time in the sun using three inputs: current UV index, your skin's specific type, and your SPF level. It tells you exactly how long it is safe for you to be outside without burning.

A+ Quality Score 100/100

uv-index | skincare | sun-safety | fitzpatrick-scale | spf-calculator

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vinkius.com/mcp/uv-exposure-estimator

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.

UV Exposure Estimator MCP

3 tools available
Cloud-hosted on Vinkius

Figuring out if it’s safe to spend an afternoon outdoors isn't just about checking a general weather report anymore. You need calculations that factor in three things: the intensity of the sun right now, your personal skin health, and how much protection you're wearing. This MCP runs those numbers for you. It assesses your risk by looking up details on specific skin types based on the Fitzpatrick scale, classifying the current UV level, and then using all that data to calculate a safe window of time. You just feed in the variables, and your agent gives you a precise minutes count telling you when it's time to head inside or reapply sunscreen. It’s accurate sun safety math, handled by connecting through Vinkius.

Core Capabilities

01 — Assess Skin Risk

It looks up detailed information on your skin type using dermatological standards.

02 — Gauge Current UV Threat

It classifies the current sun exposure level to determine immediate risk.

03 — Determine Safe Duration

It calculates the absolute maximum time you can safely spend in direct sunlight.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/uv-exposure-estimator** — connect your AI agent in three steps.

01 You provide your AI client with three data points: your skin type, the current UV index, and your SPF.

02 The MCP processes this information by looking up your skin details, classifying the sun's intensity, and combining these factors into a single calculation.

03 Your agent receives a specific number: the maximum safe minutes you can spend in the sun.

The bottom line is that it takes complex variables—skin type, UV index, SPF—and spits out one clear number for your safety.

Built For

Outdoor guides and dermatologists need this. If you spend time advising people on sun safety, or if you manage outdoor recreation events, stop guessing with generalized guidelines. This MCP gives you the precise math to advise accurately.

Dermatology Assistant

Uses it when a client asks about safe time limits after an intense sun exposure period.

Outdoor Activity Planner

Checks the UV Index and calculates mandatory rest periods for participants during long hikes or beach days.

What Changes When You Connect

01 Pinpoint safety limits: Instead of relying on general guidelines, you get a precise figure for maximum exposure time using calculate_safe_minutes.

02 Understand your skin profile: lookup_skin_characteristics provides detailed dermatological facts about different Fitzpatrick skin types so you know exactly who is at risk.

03 Gauge immediate danger: classify_uv_intensity tells you if the sun is currently high-risk, allowing for real-time adjustments to outdoor plans.

04 Consolidate variables: The MCP takes your SPF level and current UV index alongside skin data, preventing guesswork when planning an outing.

05 Reduce risk exposure: You stop guessing. This tool gives a clear number, ensuring every person stays safe during long days outdoors.

Real-World Applications

Planning a Multi-Hour Beach Trip

A resort coordinator needs to schedule activities for guests with varying skin types. They ask their agent, and the tool first uses lookup_skin_characteristics to check guest profiles. Then, it classifies_uv_intensity for the current hour and finally runs calculate_safe_minutes to set mandatory break schedules for everyone.

Assessing a Client's Skin After an Accident

A dermatologist needs to advise a patient who has been exposed to high UV levels. The agent uses lookup_skin_characteristics to confirm the skin type, and then runs calculate_safe_minutes to give the client a safe return-to-sun schedule.

Guiding an Outdoor Hike

An outdoor guide needs to manage a group's exposure time. They check the UV Index using classify_uv_intensity every hour and use calculate_safe_minutes to call out mandatory rest periods, keeping everyone safe from overexposure.

Responding to a General Sun Safety Query

A user asks about their safety limits for the day. The agent looks up skin characteristics first, classifies the UV index, and then returns one clear number using calculate_safe_minutes, providing an instant answer.

Patterns to Avoid

Relying on general advice

✗ AVOID

The guide says, 'Wait until the sun is less intense.' This relies on subjective observation and ignores specific skin vulnerabilities.

✓ INSTEAD

Use classify_uv_intensity to get an objective reading of the current UV risk. Then use calculate_safe_minutes, feeding in the exact skin type data from lookup_skin_characteristics for a precise safety window.

Ignoring skin differences

✗ AVOID

A single guide rule is given to everyone regardless of their Fitzpatrick scale or SPF.

✓ INSTEAD

Always start with lookup_skin_characteristics to establish the individual risk profile. This data must feed into calculate_safe_minutes, ensuring the result is personalized and accurate.

Forgetting variables

✗ AVOID

Only checking the UV index without factoring in skin sensitivity or protection.

✓ INSTEAD

Make sure all three inputs are provided: use lookup_skin_characteristics for the profile, classify_uv_intensity for the current threat, and include SPF data when running calculate_safe_minutes.

The Right Fit

Use this MCP if you need a quantitative measurement of sun safety. Specifically, if your advice depends on combining three distinct variables—skin type (dermatology), immediate environmental risk (UV index), and personal protection level (SPF)—you need these tools. If you only need to know the general UV forecast for the day, or if you're just checking if a specific skin type is generally sensitive, then a simple weather API or basic lookup tool works fine. But if your job requires determining 'How many minutes are safe right now?', this MCP is necessary because it handles the complex calculation across multiple inputs.

Sun safety advice often feels like checking three different charts and guides.

Today, giving sun safety advice means cross-referencing general guidelines, looking up skin type vulnerability on one chart, checking the current UV index on a weather app, and then trying to combine that data with SPF recommendations. It's high effort and easy to miss a crucial variable.

With this MCP, your agent handles the complexity. You just feed in your client's profile and the environmental details; it runs all the necessary calculations and spits out one clear number: the maximum safe minutes they have.

UV Exposure Estimator provides concrete sun safety numbers.

You eliminate the need to manually compare Fitzpatrick scale data with current UV indexes. You don't have to guess how SPF interacts with skin sensitivity; it's all factored into calculate_safe_minutes.

The result is immediate, specific advice that accounts for every variable. It turns a complex safety calculation into one simple, actionable number.

UV Exposure Estimator MCP with 3 Tools

These tools let you calculate safe outdoor times. They check skin vulnerability, read current UV levels, and determine your maximum sun exposure duration.

#	TOOL	DESCRIPTION
01	`calculate_safe_minutes`	Calculates the maximum safe duration of sun exposure based on inputs.
02	`classify_uv_intensity`	Classifies the current UV intensity level into manageable risk categories.
03	`lookup_skin_characteristics`	Retrieves dermatological information for a specific skin type using standard scales.

See It in Action

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

U What is my safe sun exposure time if the UV index is 8 and I have skin type III with SPF 30?

With a UV index of 8, skin type III, and SPF 30, your safe exposure time is approximately 25 minutes.

U Tell me about the characteristics of Fitzpatrick skin type I.

Skin type I is highly sensitive, has minimal melanin, and faces an extreme risk of sunburn.

U The UV index is currently 2. What should I do?

A UV index of 2 is considered Low. The risk is minimal, and standard skin resistance is usually sufficient.

Frequently Asked Questions

01 **How does the UV Exposure Estimator MCP work with different skin types?**

It uses lookup_skin_characteristics to retrieve specific dermatological data for your exact skin type. This detail is critical because it influences how quickly you burn, which affects the final safe time calculation.

02 **Can I use calculate_safe_minutes if I don't know my SPF?**

The tool requires an SPF input to run accurately. If your agent doesn't have that information, it won't be able to provide a calculated safe time.

03 **What does classify_uv_intensity tell me about the sun?**

It classifies the current UV threat level—low, moderate, or high. This classification is one of the primary inputs used by calculate_safe_minutes to determine risk.

04 **Is UV Exposure Estimator MCP just a simple SPF calculator?**

No, it's much more complex. While SPF matters, this MCP also factors in your inherent skin type and the real-time intensity of the sun using classify_uv_intensity.

05 **What kind of data does lookup_skin_characteristics use?**

It uses standard dermatological metrics associated with the Fitzpatrick scale to determine general skin vulnerability levels for accurate risk assessment.

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 `"uv-exposure-estimator": { "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

UV Exposure Estimator 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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LICENSE & USAGE

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