

A great product that wouldn't sell.

One reformulation changed everything.

—70% material cost · 70% gross margin

CASE STUDY · PRODUCT DEVELOPMENT / REFORMULATION · CLOSED-LOOP CORROSION CONTROL · INDEPENDENT · NO CHEMISTRY SOLD

A patented closed-loop inhibitor couldn't sell at 2-3x cost — one reformulation cut material cost **70%** and made it the fastest-growing product in its class

A global water treatment company launched a patented closed-loop corrosion inhibitor to retain its top customers — but priced at 2-3x standard treatment cost, no one would buy it. For two years it sold at a negative margin or not at all. The performance was never the problem; the cost structure was. An independent formulation and application review found the product was overengineered and mis-engineered. We fixed the product, the cost, the price, and the launch — and sales followed within 45 days.

APPLICATION

Closed-loop corrosion control

KEY ISSUE

Over- & mis-engineered formula

MATERIAL COST

-70%

GROSS MARGIN

70% at nitrite parity

OUTCOME

#1 growth in 6 mo

Challenge — What Was Happening

Global R&D had spent years developing a new closed-loop corrosion inhibitor on patented technology. Performance was excellent — but the launch cost was so high that no customer would buy it, landing at **2-3x** the cost of standard treatment.

Positioned to retain the company's top accounts, it instead sold only at a **negative margin** for its first two years, just to get units in the field.

The opportunity was real: at the right price point the product would be a clear market leader. The performance was never the problem — the cost structure was.

Intervention — What We Did

- Reviewed the product, its field performance, and its full formulation against real closed-loop service conditions
- Identified raw materials **competing with each other** — the blend was overloaded to overcome its own side-reactions
- Found actives **overapplied for closed-loop duty**, where make-up and blowdown are minimal
- Removed the unnecessary raw materials and formulatory aids, then re-balanced the formula to preserve performance and patentability
- Defined test conditions for **true industrial closed-loop service**, then re-priced and re-launched

Root Cause

ROOT CAUSE FINDING

It was never a bad product — it was the wrong formula for the application. The product worked well; the cost was trapped in raw materials and formulatory aids that closed-loop service never needed.

Overengineered. Raw materials in the blend were antagonistic. Rather than resolve the incompatibility, the formula was loaded with more material to push past the side-reactions it was creating — paying twice for one job.

Mis-engineered. Several actives were dosed for aggressive open-recirculating duty. In a closed loop — low make-up, low blowdown, stable water — that loading is simply wasted, and the test conditions had never reflected true closed-loop operation. Correct the antagonism, right-size the actives, and match the test to reality — and the cost falls away without touching performance or the patent.

RESULTS DELIVERED

-70% cost

Cost of materials — enabling 70% gross margin at price parity with nitrite, with the patent and performance intact

MATERIAL COST

-70%

GROSS MARGIN

70%

FIRST SALES

45 days

CATEGORY RANK

#1 in 6 mo

RESULTS DELIVERED

- 70% reduction** in cost of materials — removing what the application never needed
- 70% gross margin** at price equivalency to nitrite — no longer a 2-3x premium
- IP and patentability maintained** through the reformulation
- Side-reaction and deposition risk eliminated** by resolving the antagonism, not overdosing past it

COMMERCIAL IMPACT

- Immediate sales within 45 days** of the reformulated launch — after two years of near-zero uptake
- Grew to the **fastest-growing closed-loop product globally within 6 months**
- Converted a stranded, negative-margin launch into a **category leader**
- A retained-customer strategy finally delivered as intended

It's never a bad product — it's just the wrong market fit. Understanding the market, the customer, the technology, the chemistry, and the application is only something that comes from 25+ years of solving problems onsite at the customer and developing the specific products they need.

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