

NIIR PROJECT CONSULTANCY SERVICES

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C L I E N T C A S E S T U D Y

Manufacturing of SODIUM PERCARBONATE

Transforming Industrial Vision into a Commercially Viable Specialty Chemical Manufacturing Venture

CLIENT

M/s. National Peroxide Ltd

INDUSTRY

Specialty Chemical Manufacturing

LOCATION

Kalyan, Maharashtra, India

STATUS

Proceeding to Implementation

DPR

Detailed Project Report

TEF

Techno-Economic Feasibility

MA

Market Assessment

FVA

Financial Viability Analysis

SA

Strategic Advisory

NPCS is part of Asia's leading industrial knowledge ecosystem with thousands of project profiles and global consulting expertise.

01 | About NPCS

Who We Are

Niir Project Consultancy Services (NPCS) is a premier industrial consultancy firm specializing in project feasibility, market research, and investment advisory for entrepreneurs, MSMEs, startups, and large-scale industrial investors across India and globally.

NPCS is part of Asia's leading industrial knowledge ecosystem with thousands of project profiles and global consulting expertise. Our team of seasoned economists, engineers, and financial analysts delivers research-backed, actionable insights to help clients make confident investment decisions.

Core Services

- ✓ Detailed Project Reports (DPRs)
- ✓ Techno-Economic Feasibility Studies
- ✓ Market Research & Demand Analysis
- ✓ Engineering & Technical Advisory
- ✓ Financial Modeling & Viability Analysis
- ✓ Strategic Investment Planning
- ✓ Manufacturing Opportunity Identification
- ✓ Implementation Roadmap Development

Our Global Track Record

 30,000+ Project Reports	 50+ Countries Served	 30+ Years of Expertise	 250,000+ Projects Delivered
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02 | Client Overview

Client Name	M/s. National Peroxide Ltd
Headquarters	Kalyan, Maharashtra, India
Industry Sector	Large Scale Chemical Manufacturing
Project Recommended	Sodium Percarbonate Manufacturing Unit
Consultancy Scope	Techno-Economic Feasibility Study, DPR, Market Assessment, Financial Viability Analysis, Strategic Advisory
Implementation Status	Client Agreed to Proceed with Project Implementation

Investment Objectives

M/s. National Peroxide Ltd approached NPCS with a mandate to identify and evaluate a new manufacturing opportunity aligned with long-term profitability, sustainable demand, and scalable operations. The client required expert guidance backed by market intelligence and financial rigor before committing capital.

Client Requirements

- Strong long-term profitability potential
- Sustainable industrial and institutional demand
- Technical feasibility and scalable operations
- Availability of raw materials and infrastructure
- Moderate-to-large capital investment viability
- Future growth and product diversification opportunities

03 | Problem Statement & Challenges

Entering the specialty chemicals manufacturing sector presents complex challenges requiring deep market intelligence, technical expertise, and financial prudence. M/s. National Peroxide Ltd faced several strategic and operational uncertainties prior to engaging NPCS:

<p>Market Uncertainty</p> <p>Lack of structured market data on sodium percarbonate demand trends, competitive dynamics, and growth projections in both domestic and export markets.</p>	<p>Technical Feasibility Gaps</p> <p>Limited knowledge of manufacturing process requirements, plant layout, machinery selection, and production technology options for specialty chemical manufacturing.</p>
<p>Financial Risk Assessment</p> <p>Absence of a rigorous financial model to assess capital requirements, operating costs, revenue projections, ROI, IRR, and payback period.</p>	<p>Supply Chain & Raw Material Risks</p> <p>Uncertainty around sourcing reliability, logistics infrastructure, and cost-effective procurement channels for key raw materials required in production.</p>
<p>Regulatory Complexity</p> <p>Need for guidance on environmental compliance, industrial licensing, pollution control norms, and statutory approvals for chemical manufacturing units in Maharashtra.</p>	<p>Investment Decision Confidence</p> <p>Requirement for a bankable, professionally structured Detailed Project Report (DPR) to support investment decisions, financial planning, and stakeholder communications.</p>

04 | Our Approach & Strategy

NPCS deployed a structured, multi-phase consulting methodology to systematically evaluate the opportunity, mitigate risks, and deliver a comprehensive investment blueprint.

01**Project Opportunity Identification**

Systematic screening of specialty chemical manufacturing opportunities aligned with the client's investment profile, regional advantages, and market demand trends.

02**Comprehensive Market Analysis**

In-depth research on domestic and global sodium percarbonate markets — including demand drivers, competitive landscape, import-export dynamics, pricing trends, and end-use industry growth.

03**Technical Feasibility Assessment**

Detailed review of manufacturing processes, plant design, utility requirements, machinery specifications, and technology selection for scalable and efficient production.

04**Financial Modeling & Viability Analysis**

Rigorous financial modeling encompassing capital investment requirements, operating cost structures, revenue projections, profitability metrics, and return on investment analysis.

05**Implementation Strategy & Advisory**

End-to-end roadmap covering phased project execution, procurement planning, regulatory compliance, and operational readiness to minimize setup risk and accelerate time-to-production.

05 | Scope of Services Delivered

Detailed Project Report (DPR)	A professionally structured, bankable DPR encompassing all aspects of the proposed sodium percarbonate manufacturing unit — from raw material sourcing and process flow to financial projections and regulatory requirements.
Market Validation & Demand Study	Comprehensive assessment of current market size, demand growth trends, key end-use segments (detergents, textiles, healthcare, water treatment), and competitive positioning analysis.
Technical Feasibility Study	Plant layout design, manufacturing process evaluation, machinery and equipment selection, utility infrastructure planning, and raw material specifications.
Financial Modeling	Capital expenditure estimates, working capital requirements, projected P&L statements, cash flow analysis, break-even analysis, ROI, IRR, and payback period calculations.
Raw Material Sourcing Analysis	Evaluation of key input material availability, local supply chain networks, procurement options, and cost benchmarking within Maharashtra's chemical ecosystem.
Implementation Roadmap	Phased execution plan covering land acquisition, plant construction, machinery installation, trial production, and commercial launch with milestone-based timelines.
Strategic Advisory	Expert guidance on investment risk mitigation, operational best practices, regulatory approvals, and strategic positioning for market entry.

06 | Business Opportunity: Sodium Percarbonate

What is Sodium Percarbonate?

Sodium percarbonate ($\text{Na}_2\text{CO}_3 \cdot 1.5\text{H}_2\text{O}_2$) is an eco-friendly, oxygen-based bleaching and cleaning compound — essentially a crystalline adduct of sodium carbonate and hydrogen peroxide. It dissolves in water to release hydrogen peroxide, making it highly effective across multiple industrial applications.

Why This Product Was Recommended

NPCS identified sodium percarbonate as a strategically optimal investment given its growing commercial importance, the client's regional strengths, and favorable macro demand trends in sustainable chemistry.

Key Application Sectors

- Detergent & Laundry Products
- Household & Industrial Cleaning Formulations
- Textile Bleaching & Processing
- Water Treatment & Purification
- Healthcare & Sanitation Products
- Specialty Industrial Chemicals
- Eco-friendly Consumer Products

07 | Market Opportunity & Demand Outlook

The global and domestic market outlook for sodium percarbonate remains highly promising, driven by structural shifts in consumer preferences, industrial hygiene standards, and environmental regulations.

Growing Eco-Friendly Demand	Detergent Industry Expansion	Hygiene & Sanitation Awareness	Export Market Potential
Consumers and industries shifting from chlorine-based to oxygen-based cleaning agents for environmental and safety benefits.	Rapid growth in household care, hygiene, and industrial cleaning sectors continues to drive sodium percarbonate consumption.	Post-pandemic heightened focus on cleanliness across healthcare, hospitality, and institutional sectors.	India's expanding specialty chemicals sector presents significant opportunities for both domestic and international market capture.

08 | Technical Insights: Manufacturing Process

The sodium percarbonate manufacturing process involves a well-established chemical synthesis route combining sodium carbonate (soda ash) and hydrogen peroxide under controlled conditions to yield stable, granular sodium percarbonate crystals.

STEP 1	Raw Material Procurement & Preparation: Procurement and quality testing of food/industrial grade sodium carbonate (Na ₂ CO ₃) and concentrated hydrogen peroxide (H ₂ O ₂). Materials are stored under controlled temperature and humidity conditions.
STEP 2	Solution Preparation: Sodium carbonate is dissolved in de-mineralized water in reaction vessels at precisely controlled concentrations. Solution pH, temperature, and purity levels are rigorously monitored.
STEP 3	Controlled Crystallization Reaction: Hydrogen peroxide is carefully added to the sodium carbonate solution under controlled temperature conditions. The exothermic reaction produces sodium percarbonate crystals in aqueous suspension.
STEP 4	Washing & Purification: The crystalline product is separated, washed with cold de-mineralized water to remove impurities and residual reactants, ensuring product purity meeting commercial specifications.
STEP 5	Drying & Stabilization: Washed crystals are dried in a fluidized bed dryer or rotary dryer at controlled temperatures. Stabilizing agents are added to enhance shelf life and prevent premature oxygen release.
STEP 6	Granulation & Screening: Dried product is granulated and screened to achieve uniform particle size distribution meeting commercial grade specifications for detergent and industrial applications.
STEP 7	Quality Control & Testing: Comprehensive quality testing including active oxygen content analysis, bulk density, moisture content, dissolution rate, and stability under standard storage conditions.
STEP 8	Packaging & Dispatch: Tested product is packaged in moisture-proof, sealed bags/drums under controlled conditions and dispatched to domestic and export customers.

Key Machinery & Equipment

<p>Reaction Vessels / Crystallizers</p> <p>SS-grade jacketed vessels with precise temperature and agitation control for the core synthesis reaction.</p>	<p>Fluidized Bed Dryer</p> <p>Industrial-grade dryer ensuring uniform moisture removal while preserving product stability and active oxygen content.</p>	<p>Granulator & Screening Unit</p> <p>Rotary granulator and vibratory screens for achieving uniform particle size and commercial-grade product consistency.</p>
<p>Storage & Dosing Systems</p> <p>Temperature-controlled storage tanks and precise metering systems for hydrogen peroxide handling and safe processing.</p>	<p>Quality Control Laboratory</p> <p>Equipped with titration units, moisture analyzers, and spectroscopic equipment for batch quality assurance.</p>	<p>Packaging Line</p> <p>Automated moisture-proof packaging systems ensuring product integrity during storage and transport.</p>

09 | Financial & Market Analysis

Investment Overview

NPCS conducted a rigorous techno-economic and financial feasibility assessment to evaluate the investment attractiveness of the proposed sodium percarbonate manufacturing unit. The analysis covered all capital and operational dimensions required for a bankable project report.

Capital Investment Components

- Land acquisition and site development
- Factory building and civil infrastructure
- Plant, machinery, and equipment procurement
- Utility systems (power, water, compressed air)
- Laboratory and quality control setup
- Pre-operative and working capital provisions
- Environmental compliance systems

Financial Viability Indicators

Parameter	Assessment
Return on Investment (ROI)	Favorable — above industry benchmark
Internal Rate of Return (IRR)	Commercially attractive
Payback Period	Moderate — within industry norms
Break-even Analysis	Achievable at planned capacity
Revenue Scalability	High — multiple growth levers
Import Substitution Potential	Significant — reducing import dependency

Market Demand & Growth Factors

Detergent Sector ~6-8% Annual Growth	Textile Chemicals ~5-7% CAGR	Water Treatment ~7-9% Growth Rate	Healthcare & Sanitation ~8-10% Expansion	Export Market High Potential
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10 | Project Execution Timeline

NPCS outlined a structured, phased project execution timeline to guide M/s. National Peroxide Ltd from the initial setup phase through commercial production launch:

Phase	Activity	Timeline	Key Milestones
Phase 1	Pre-Project & Planning	Month 1-2	DPR finalization, regulatory approvals initiation, land identification, financial tie-up
Phase 2	Infrastructure & Civil Works	Month 3-6	Land acquisition, factory construction, utility installation, permits obtained
Phase 3	Machinery Procurement	Month 5-8	Equipment ordering, vendor finalization, delivery and inspection of plant machinery
Phase 4	Installation & Commissioning	Month 8-10	Plant installation, utility connections, equipment testing, safety systems validation
Phase 5	Trial Production & QC	Month 10-11	Trial runs, process optimization, quality testing, staff training completion
Phase 6	Commercial Production Launch	Month 12+	Full commercial production, market dispatch, sales channel activation

11 | Results & Outcomes

The comprehensive techno-economic feasibility study and strategic advisory delivered by NPCS empowered M/s. National Peroxide Ltd with the clarity, confidence, and commercial validation required to commit to project implementation.

<p>Investment Confidence</p> <p>Client secured a professionally structured DPR providing investment-grade analysis and bankable financial projections.</p>	<p>Market Clarity</p> <p>Comprehensive demand study validated strong market opportunity across multiple end-use sectors with favorable long-term growth outlook.</p>	<p>Technical Readiness</p> <p>Detailed manufacturing process roadmap, machinery specifications, and plant design providing implementation-ready technical blueprint.</p>
<p>Risk Mitigation</p> <p>Identified and structured mitigation strategies for market, technical, financial, and supply chain risks before capital deployment.</p>	<p>Strategic Positioning</p> <p>Positioned client to capitalize on growing demand for eco-friendly specialty chemicals with strong domestic and export market access.</p>	<p>Implementation Ready</p> <p>Client agreed to proceed with full project implementation — a testament to the quality and credibility of NPCS feasibility work.</p>

12 | Client Testimonial

“NPCS provided us with valuable feasibility insights and a professionally structured project evaluation that enabled us to assess a promising specialty chemical manufacturing opportunity with confidence. Their deep market understanding, technical expertise, and structured advisory approach added significant value to our investment planning process. We are now proceeding with project implementation with clarity and commercial conviction.”

— M/s. National Peroxide Ltd, Kalyan, Maharashtra

13 | Why Choose NPCS

<p>Proven Industrial Expertise</p> <p>30+ years of specialized experience across hundreds of manufacturing sectors — chemicals, food, pharma, textiles, engineering, and more.</p>	<p>Global Market Intelligence</p> <p>Deep understanding of domestic and international market dynamics, demand trends, competitive landscapes, and regulatory environments across 50+ countries.</p>	<p>Data-Driven Feasibility</p> <p>Every recommendation is grounded in rigorous quantitative analysis, field research, and financial modeling — not assumptions or guesswork.</p>	<p>End-to-End Project Support</p> <p>From opportunity identification to implementation planning, NPCS supports clients throughout the entire investment lifecycle with consistent expert guidance.</p>
<p>Bankable DPRs & Reports</p> <p>30,000+ project reports developed across decades — trusted by banks, investors, and industrial enterprises as credible, investment-grade documents.</p>	<p>Risk Mitigation Approach</p> <p>Proactive identification and structuring of mitigation strategies for market, technical, financial, and regulatory risks before capital is committed.</p>	<p>Customized Solutions</p> <p>Every engagement is tailored to the client's investment profile, regional context, industry dynamics, and strategic objectives.</p>	<p>Trusted Across Industries</p> <p>Serving entrepreneurs, MSMEs, startups, and large industrialists — NPCS is the partner of choice for manufacturing investment decisions across India and globally.</p>

14 | Conclusion

This engagement with M/s. National Peroxide Ltd demonstrates how professionally developed feasibility studies and expert industrial consultancy can transform an investment idea into a commercially viable, implementation-ready manufacturing venture.

By delivering a rigorous Techno-Economic Feasibility Study, comprehensive market assessment, technical manufacturing blueprint, and bankable financial model, NPCS enabled the client to move from uncertainty to investment confidence — validating both the commercial opportunity and the strategic fit of sodium percarbonate manufacturing within Maharashtra's industrial ecosystem.

The recommendation to establish a Sodium Percarbonate Manufacturing Unit reflects NPCS's unwavering commitment to helping entrepreneurs, MSMEs, startups, and industrial investors identify technically feasible, economically viable, and growth-oriented manufacturing ventures through professionally prepared Detailed Project Reports and expert advisory services.

The client's decision to proceed with project implementation is the strongest validation of the quality, rigor, and commercial value of NPCS's consultancy work.

READY TO BUILD YOUR NEXT INDUSTRIAL PROJECT?

Partner with NPCS to transform your investment idea into a profitable industrial venture.

Detailed Project Reports (DPRs) | Techno-Economic Feasibility Studies | Market Research | Financial Viability | Strategic Advisory

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