

## TIMIR PATEL

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### OBJECTIVE:

Seeking a position as a Chemical Engineer with in a viable Fine Chemical, Food or Pharmaceutical industry where my extensive Chemical background can be effectively utilized

**Immigration Status** - Permanent Resident (Green Card Holder)

### SUMMARY

- **Nine + years** of experience in Fine Chemical, Petrochemical, API Bulk Drug Pharmaceutical & Polyurethane industries as Production, Process & Project Engineer
- Expertise on Batch as well as Continuous Process
- Experience of Designing Process Equipment like Heat Exchanger, Distillation Column, Reactor Agitator, Pressure Vessel
- Knowledge of design standards such as API, ASME, ANSI
- Responsible for Process Optimization, Troubleshooting, Debottlenecking & Cost Reduction
- Actively participate in design/safety reviews, Hazop & PSM
- Develop P&ID, PFD and Review Fabrication Drawing and Plant Lay out
- Perform Heat and Mass balance and Detail Engineering calculation
- Process simulation and Design using Aspen-HYSYS
- Heating-cooling load calculation, Hydraulic Load Calculation and Piping Design
- Process Equipment sizing and Detail Equipment List Preparation
- Propose changes in programming logic that will lead to improved process safety, quality, and productivity.
- Working knowledge of Rosemount III system, Ilix system, Profibus Network, ASI network
- Process Suitability study and selection of Mass Flow meter, Temperature, Pressure and Level Transmitter, Flow control valve, Guided wave radar
- Implement and audit Lock out Tag-out Procedure
- Develop project scopes for capital projects.
- Cost Estimation, Capex Preparation & Equipment Procurement
- List out detail project activity and scheduling with Microsoft Project
- Monitors progress of the project and compares actual costs with estimated.
- Coordinates Project activities with Design, Civil, Electrical, Process control and other Agencies
- Equipment Specification sheet preparation and List out Piping BOQ
- Techno-commercial offer comparison, negotiation and PO generation
- Write and obtain approvals for MCR's (Manufacturing Change Requests) in support of process improvements.
- Operation Knowledge of Distillation, Adsorption, Mixing, Filtration, Crystallization, Continuous Extraction, Separation, Drying, Micronization, Blending, Solid Dosage System
- Analytical data review and ability to review GC, HPLC graph
- Production planning & inventory management
- Provide technical coverage for plant trials and startups.
- Write operating procedures and provide training.
- Perform data and statistical analysis to make sound processing decisions.
- Working knowledge of cGMP Production facility and familiar with USFDA audit, DMF filing
- Productivity improvement using Lean and Six sigma tool.
- Excellent ability to work independently and with multidisciplinary teams.
- Highly organized, proactive and strong communicator in verbal & written
- **Computer Skills:**  
SAP, Auto CAD, Aspen HYSYS, MS Word, MS Excel, MS Project, Power Point, Visio

## EDUCATION:

**MBA IN MARKETING**  
S M UNIVERSITY

JULY 2009- SEP 2011  
GUJARAT, INDIA

**BACHELOR OF ENGINEERING IN CHEMICAL**  
SARDAR PATEL UNIVERSITY

July 2000- June 2004  
GUJARAT, INDIA

## Professional Experience:

### Process Engineer

CP Kelco – Gellan Gum Manufacturing

Oct 2013– Present  
San Diego CA-92113

- Fermentation, Extraction and Recovery Process Improvement
- Identify ways to increase product yields & reduce variables costs.
- Utilize process models to evaluate cost reduction opportunities
- Troubleshoot operational problems, minimize unit interruptions, and maximize asset utilization.
- Support Process control for up gradation from Rosemount III system to lfix
- Perform FMEA and Schedule preventive maintenance
- Data analysis and quality failure investigation
- Track operating performance and product quality of production units. Identify / troubleshoot existing processes and areas where efficiency can be improved and initiate corrective actions

### Process & Project Engineer

Polycoat Products – Polyurethane Manufacturing

May 2012– Oct 2013  
Bedford, TX-76021

- Execute Project of Polyurethane manufacturing capacity Expansion.
- Design Pure MDI storage and transfer facility
- Execute Specific studies about plant performance, production capacity utilization, and the effectiveness of process improvement projects.
- Production Planning and Supply chain management
- Schedule day to day production planning, coordinate activity with supervisor and operator and make sure to achieve daily target with optimum quality.
- Analyze yield and quality data, find root cause for the failure or yield loss and take corrective action.
- Improve facility of handling MDI, TDI, Polyol, Propylene Carbonate and other chemical
- Preparation of P&ID, Techno commercial comparison for equipment like Reactor, storage tank, Pressure relief valve, Thermic Fluid System, pump, cooling & chilling tower etc
- Redesign utility piping network to improve efficiency and cycle time reduction
- Execute Utility Expansion Project
- Provide technical coverage for plant trials and startups
- Developed PLC semi automation system for storage & transferring raw material & finished product packaging

### Sr. Process Design & Project Engineer Zydus Cadila Ltd

Sep 2009– March 2012  
Vadodara, INDIA

- Execute Project of Bulk Drug manufacturing plant Facility from Ground level, Project valued of US \$10 million.
  - o Process Mapping, PFD preparation, Equipment sizing, Preparation of Plant lay out, Tentative cost estimation & Capex preparation, Scheduling, Specification sheet preparation, Equipment list preparation, Inquiry for quote, techno-commercial comparison, coordination with different agency, P&ID preparation, BOQ preparation, Ordering equipment, Execution of project, installation, commissioning, monitoring progress, start up.
- Plant capacity calculation and proposed capacity enhancement based on future 5 years forecasting.
- Identify cost reduction area, implement idea and track accruals
- Manage multiple projects simultaneously, set priorities, identify and address problems and meet deadlines
- Technology Transfer to third party contract manufacturing.

- Sizing and Execute Project of 350 TR Vapor Absorption Machine for Chill water.
- By De-bottlenecking Increase capacity of Clopidogrel Besylate from 3TPM to 5 TPM
- Resolved residual solvent & Form B failure in Clopidogrel Bisulphate by optimization of H<sub>2</sub>SO<sub>4</sub> addition
- Coordinated activities of **Lean Manufacturing Project**, Enhance productivity by Process optimization, Debottlenecking, Cycle time Reduction, Technological up gradation, Inventory Optimization, Yield improvement, Waste Minimization & Raw material and intermediate Recovery
- Production experience of Omiprazol, Topiramate, Carvedilol, Paroxetine, Atorvastatine, Clopidogrel
- Design Distillation column for Tert Butyl Alcohol & Methanol with Aspen HYSYS.
- Established solvent Recovery of 1-4 Dioxane & Acetone save \$100 thousand
- Upgrade the vacuum system by OTL pump in place of Steam Ejector & save operating cost by \$ 0.2 million & also Reduce High COD effluent load on ETP
- By Recycling water stream & controlling water flow reduce water consumption by 50 KL per Day.
- Reduce Effluent Load by Segregation of effluent stream based on COD & TDS & developed transfer system
- Execute project of MEE & Stripper 1500 Gal/Hr to Improve performance of Effluent treatment plant
- Design and Execute RO water system for Process water and Effluent Recycling

## Process & Project Engineer Alembic Ltd

July 2004 – Aug 2009  
Vadodara, INDIA

- Designed and Execute Continuous Distillation column by Aspen HYSYS for 85 % Ethanol Stream to get the 99.5 % purity, <0.2 % moisture @ 125 Gal/Hr output Capacity
- Improve Distillation column efficiency and reduce operating cost by effective utilization, packing upgradation
- Operational knowledge of Under vacuum distillation for separation of ternary mixture of DMSO, Toluene, water
- Established recycling of Recovered IPA in Venlafaxine HCl and save US \$ 0.5 million per annum
- By Debottlenecking increase capacity of Venlafaxine from 1 TPM to 2TPM with small investment.
- Production Knowledge of Azaerythromycin, Clarithromycin, Venlafaxine
- Modify, Re Installation of Molecular sieve dryer for continuous IPA Recovery which unutilized in other plant
- Execute Project of 12000 pounds Boiler
- Execute the Project of Venlafaxine Hydrogenation Plant
- Established catalyst recovery, minimized waste and reduce Product RMC
- Initiate and implement capacity improvement and debottlenecking project
- Process variability study with Six sigma and improve quality and productivity
- Quality data analysis and failure investigation
- Develop in depth expertise on process equipment used at the plants such as Reactors, Agitators, heat exchangers, pumps, filters, Dryers, Scrubber, Distillation Column
- Calculate plant utility load, study utility distribution network, find short fall and improve efficiency
- Audit existing cooling tower, chilling plant, compressor efficiency, compare with process peak load, improved utility by up gradation and add-on capacity.
- Design and Execute steam condensate recovery network project and reduce steam consumption by 15%
- Introduce PHE base hot water system and improve process controllability and reduce heat load
- Scale up and Technology transfer from R&D to Pilot plant and Commercial plant
- Process mapping and equipment suitability study
- Identify and implement methods to improve processes, reduce scrap and increase production efficiency
- Monthly production planning based on order and future forecasting
- Inventory management of finish good, Intermediate, raw material and Packing material
- Schedule day to day production planning, coordinate activity with supervisor and operator and make sure to achieve target with optimum quality
- Perform activity on SAP like BOM preparation, raw material request, Indenting, PO closed
- Review Batch manufacturing Record, generate deviation, change control, maintain documentation for FDA and ISO audit
- Perform Hazop and PSM
- Operational Knowledge of Fermentation Process, Continuous Extraction and Recovery process
- Handle diff unit process like Alkylation, Condensation, Esterification, Hydrogenation, Halogenations, Oxidation
- Coaching, mentoring and leadership to a multi-shift manufacturing operation
- Review performance of subordinates within a defined schedule