Riley Kessler

Chemical Engineer

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SUMMARY

Chemical engineer with 6 years in specialty chemicals and food ingredient manufacturing, working across batch reactors, distillation and process safety. Led a reactor optimization that raised yield by 6% and cut cycle time by 40 minutes per batch. Comfortable owning a process from PFD to startup and running the HAZOP that gets it approved.

EXPERIENCE

Process Engineer — Maringouin Specialty Chemicals

Baton Rouge, LA · Apr 2022 – Present

- Optimized a batch polymerization reactor's temperature ramp and catalyst feed rate, raising yield from 84% to 90% and cutting cycle time by 40 minutes per batch across 3 production lines.
- Led the HAZOP and layer-of-protection analysis for a new solvent recovery unit, closing 22 action items before startup with zero safety incidents in the first 6 months of operation.
- Modeled a 3-column distillation train in Aspen Plus to cut steam use, and the resulting setpoint changes lowered energy cost by $140,000 a year.
- Investigated 9 off-spec batches over a quarter, traced 6 to a mis-calibrated pH probe, and wrote the calibration procedure that eliminated the recurrence.

Process Engineer — Teche Bayou Food Ingredients

New Iberia, LA · Jul 2019 – Mar 2022

- Scaled a flavor encapsulation process from lab bench to a 2,000-gallon reactor, running 4 pilot batches and writing the master batch record adopted for full production.
- Reduced spray dryer downtime by 18% by redesigning the nozzle cleaning schedule based on 5 months of fouling data.
- Updated process hazard analyses for 7 existing units to meet a new corporate PSM standard, clearing an internal audit with no repeat findings.

SKILLS

Process: Batch and continuous reactors, distillation, HAZOP, PHA, mass and energy balances

Tools: Aspen Plus, AutoCAD P&IDs, Minitab, MATLAB, Excel

Safety and compliance: Process safety management (PSM), OSHA 1910, root cause analysis, SOP writing

Manufacturing: Six Sigma (Green Belt), DCS/SCADA, scale-up, batch records, GMP

CERTIFICATIONS

Six Sigma Green Belt, 2021

EDUCATION

B.S. Chemical Engineering, Louisiana State University, 2019

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