

# Joshua Sharpes, EIT

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## OBJECTIVE

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Obtain Process Engineering role — Greater Houston, TX. Available immediately.

## EDUCATION

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B.S. Chemical Engineering — University of Colorado Boulder — Aug 2019 – May 2023 — NCEES FE Chemical

## EXPERIENCE

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### Sharpes Process Engineering · The Woodlands, TX

Apr 2025 – Present

#### *Process Engineer*

Design studies, calculation tools, and process-safety references — [jsharpes-portfolio.netlify.app](https://jsharpes-portfolio.netlify.app)

- Built pressure-relief and two-phase-flow calculation tools (API 520/521, DIERS methods), **validated line-for-line against CCPS and DIERS published reference solutions**.
- Completed FEL-stage design and sizing studies for a sulfuric-acid regeneration unit, an ammonia / H<sub>2</sub> synthesis process, and a rotary-kiln reactor scale-up (axial-dispersion model).
- Authored process-safety and equipment-selection reference material spanning relief systems, heat exchangers, rotating equipment, and HAZOP / LOPA methodology.

### Huntsman Corporation · Conroe, TX

Sep 2024 – Mar 2025

#### *Production Engineer*

- Unit engineer for three continuous polyetheramine reactor trains (fixed-bed catalytic); selected operating conditions and sized process equipment (control valves, pumps, relief devices per API 2000).
- **Improved catalyst life ~40% and cut product transition times ~20%** through operating-condition optimization and SOP revision; corrected a mis-set reactor low-flow ESD via reaction-thermicity estimation.
- Led Apollo RCA for process-safety events (including a reactor runaway-potential scenario) and **ended recurring unit shutdowns** through an ISA-18.2 alarm rationalization.

### Solvay / Syensqo · Borger, TX

Jun 2023 – Jun 2024

#### *Process Engineer*

- On-site FEL / design (T-function) engineer at a VPP/PSM site; reserve production engineer with on-call duty.
- **Led ~\$1MM FEL-1 heat-integration projects:** sized exchangers, pumps, valves, and PSVs (Aspen/HYSYS); ranked API 520/521 two-phase relief scenarios (DIERS / E2G training); produced NPV/IRR economics and red-lined P&IDs.
- Audited three natural-gas-fired heaters and led combustion-air improvements for **>\$1MM/yr in fuel savings**; built a plant-wide OEE / downtime tracking system used for CAPEX justification.

## PROJECTS

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Methanol-from-biomass plant design (Aspen Plus, reactor kinetics) • Epichlorohydrin unit design (Dow Chemical) • Polyethylene production and circular-economy analysis • Sulfur recovery (Claus) study

## APTITUDE

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**Plant:** Aspen Process Explorer/Process Data, PI Vision/ProcessBook/DataLink, SAP & SAP BI, DeltaV, Foxboro | **Simulation:** Aspen Plus/HYSYS, Aspen Simulation Workbook | **Programming:** Python, VBA | **Other:** Microsoft Office, Minitab, Claude Code CLI

## LINKS

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[LinkedIn](#) | [ACS Publication](#)