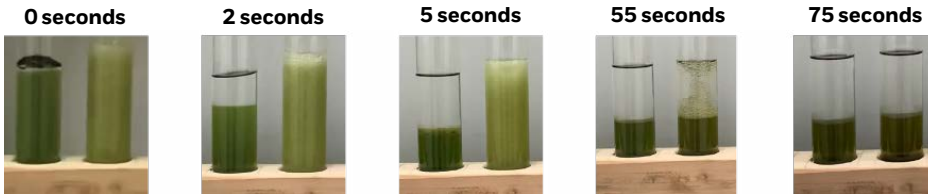


# UOP EMULSEND-318 EMULSION BREAKER

REDUCE AND ELIMINATE AMINE AND CAUSTIC CARRYOVER

UOP EmulsEnd-318 promotes rapid and clean separation of hydrocarbon and aqueous phases.



5 seconds total separation with EmulsEnd-318 versus 75 seconds without.



## CAUSTIC AND AMINE CARRYOVER CHALLENGES

Excessive emulsions and carryover from liquid-liquid contacting systems (such as LPG Amine Absorbers and Merox Extractors) can cause:

- Reduced, bottlenecked production
- Increased caustic and amine waste

Hydrocarbon feeds can contain impurities from various sources causing these emulsions. It may not be practical to address these challenges with equipment modification, changes in upstream operation or changes in feed source. In these cases, an emulsion breaker can enhance separation between the phases and eliminate off-spec product and downstream operational issues like catalyst deactivation and equipment corrosion caused by carryover.

## EMULSION BREAKER SOLUTION

UOP EmulsEnd-318 Emulsion Breaker can reduce emulsions and carryover in your unit without requiring a revamp. It employs a simple installation that does not require a shutdown.

Commercially tested and proven, UOP EmulsEnd-318 minimizes the emulsive effects of contaminants from the coker unit, high severity FCC operation and FCC co-processing along with mitigating emulsive tendencies of corrosion inhibitors and other additives from upstream operations.

## COMMERCIAL EXPERIENCE

Tested in the field, UOP EmulsEnd-318 was able to significantly improve the profitability of a customer refinery by allowing them to process LPG in the Merox unit. This helped increase the propylene production in the downstream unit.<sup>1</sup>

There was substantial improvement seen in the amine and caustic carryover after dosing of the chemical. This allowed unit throughput to be increased by 20% of throughput, while maintaining the vast reduction in amine carryover and elimination of caustic carryover, resulting in savings of amine and caustic purchasing and disposal costs (see Figure 1).

## FEATURES AND BENEFITS

- Increase in unit throughput
- Minimized solvent carryover for on-spec product
- Does not affect product quality
- Easy installation and skid design
- Low usage – injection rate of 1-10 VPPM into feed
- Less operator intervention required
- Compatible with downstream refining processes
- Thermally stable
- Less waste

PRODUCT DESCRIPTION	BEFORE CHEMICAL DOSING	AFTER CHEMICAL DOSING	% CHANGE	COMMENTS
LPG feed rate (m <sup>3</sup> /hr)	450	540	+20%	Enabled significant increase in throughput
MDEA in Water Wash (wt%)	21	5	-70%	Significant decrease in amine carryover
Caustic Carryover in KOD	Frequent above 450 m <sup>3</sup> /hr of feed rate	NIL	N/A	Mitigated caustic carryover

Figure 1. Before and After Chemical Dosing

## PROCESS FLOW DIAGRAM – EMULSION BREAKER INJECTION

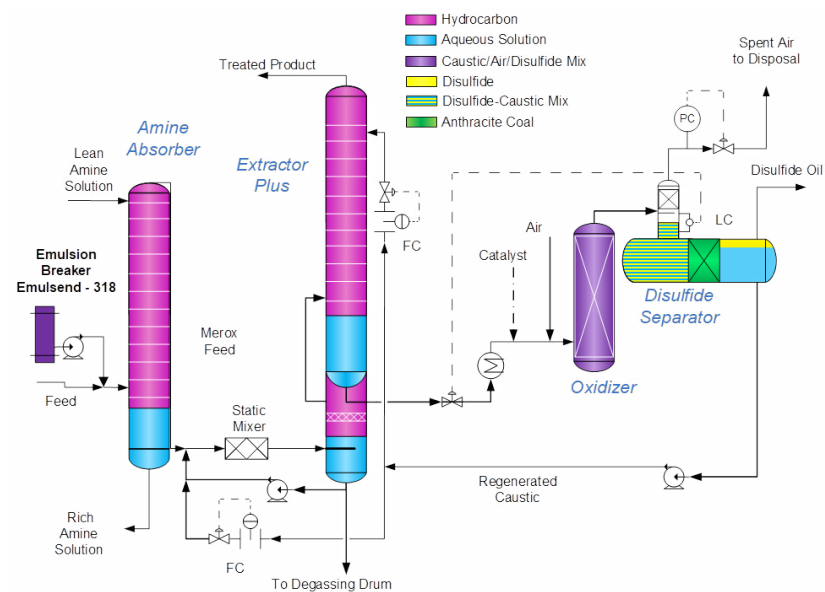


Figure 2. Emulsion Breaker Injection Process Flow Diagram<sup>1</sup>

1. “Emulsion Breakers – Eliminate Amine and Caustic Carryover” (publication date estimated: June 6, 2024)

### For more information

<https://uop.honeywell.com/en>

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UOP-Emulsend-318-Emulsion-Breaker-datasheet-20240320 | 1.0 | 03/2024  
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