

Nebula[®]

THE GOLD STANDARD FOR CATALYTIC HYDROTREATING

MAXIMIZE PERFORMANCE • EXPAND MARGINS • AVOID CAPITAL INVESTMENTS

HIGHEST ACTIVITY



The **highest activity** hydrotreating catalyst on the market, over **2-3 times more active** than traditional catalysts

SHORT PAYBACK



Nebula offers improved margins and a **short payback** period of **2-3 months**, leading to more profits for refiners

MARKET ACCEPTANCE



Exceptional customer loyalty and market acceptance; **90% repeat customers** + 1 new customer every 2 months

THE TOTAL PACKAGE



Nebula impacts a **complex a units across the entire refinery**, in addition to optimizing the individual unit

UNLOCKING VALUE ACROSS SEVERAL HPC SEGMENTS

	ULSD	VGO HC-PT	LCO HC-PT
Yield	Increase LCO to Diesel	Higher Distillate Yield	Increase LCO to Diesel
	↓ Nitrogen Slip; Utilize More Selective Cracking Catalyst		
↑ Liquid Volume Yield			
Product Quality	Cetane Uplift	Viscosity Index Improvement	
	Enhance Boiling Point Shift	Lower Sulfur and Nitrogen in Conversion Products	
			↑ LCO EP
Avoid Large Capital Investments			
Utilization	↑ Distressed Feed Intake		
	↑ Cycle Length		
	↑ Overall Throughput		

CASE STUDY: VGO HC-PT STAX[®] CONFIGURATION

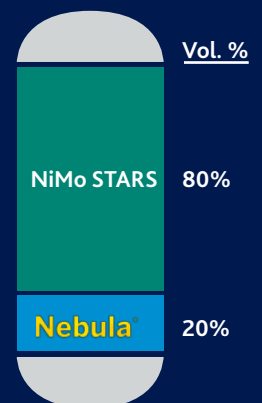


Significantly boost refinery margins by allowing the unit to process **heavier feeds**, **increase throughput** and **run longer cycles**.

Significantly increase distressed feedstocks, i.e., aromatic extract, plus a **+20%** increase in throughput and a **+45%** increase in cycle length

Short payback period (**< 4 months**), leading to **additional profits** for refinery

Application was the refiner's **4th consecutive cycle** using Nebula[®]



ALBEMARLE[®]

The Gold Standard for Catalytic Hydrotreating



➤ For more information on this or other Albemarle products and technologies, please contact your Albemarle representative.

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