

FREEFLOW AA

Finally, A Proven Alternative to Methanol

Reducing your methanol costs by up to 80% is just the tip of the iceberg:

- Eliminate costly custom methanol supply chain needs (estimated at over two and a half times the actual chemical cost)
- Minimize your exposure to methanol pricing swings and supply and demand effects
- Maintain the value of your crude to your downstream customers by reducing methanol in crude content
- Significantly reduce your chemical Capex budget

Immediately create a safer, less toxic production environment:

- Cut your inventory of toxic materials on your asset and reduce exposure risks
- Significantly reduce your chemical discharge

Increase operational efficiency:

- Free up valuable offshore storage, footprint space and weight
- Eliminate need for high volume delivery chemical pumps and related maintenance
- Open up wider compatibility and performance windows to your production chemical portfolio
- Spend less man hours on chemical replenishment

ONDEO
Nalco

If Methanol were free, our program would still cost less!

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Downstream Operations Costs

- On platform methanol content removal is costly, so it is often removed further downstream. Although less expensive, refinery based methanol management can also cut into your company's profitability.
- In the future, methanol content may be regulated by government bodies concerned with toxicity. In the interim, when methanol exceeds operational limits, producers and refinery operators both suffer the cost.

Return on Investment

FREEFLOW AA versus Methanol Calculator

When comparing the cost of Methanol and FREEFLOW AA programs the following costs need to be evaluated:

	Methanol	FREEFLOW AA
Methanol Cost (Gallons x Unit Price)		
1/200th of Methanol Volume x FREEFLOW AA Price		
Tank rental and Management costs		
Freight costs		
Offshore Distribution costs		
Change in Insurance Rating/Premium	None	
Space and weight on board savings?	None	
Capital and maintenance savings?	None	
Crude quality penalties?		None
Total	\$	\$
Savings		\$

This ROI is typical for an offshore operator and compares typical lease rates, product cost and freight/operational services. No assumptions have been made for control or before/after penalties, potential insurance savings and related maintenance and capital expenditures.

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Performance Envelope

Test proven from low water-cuts to high water-cuts, tested at different parameters of pressure, salinity and subcooling.

Works for both black and condensate oils.

Test proven from low salinity (0% NaCl) to saturation.

Independent test results run by Westport Technology under different salinity and pressure conditions at 30% water-cut.

Proven to inhibit hydrate agglomeration to subcoolings of 30-°F.

Applicable for high and low GOR's.

Applicable for well unloading, start-up and continuous operations.

FREEFLOW AA performs as good as Methanol.

No shut-in time limits and restart pressure within operational limits.

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How does FREEFLOW AA compare against Methanol?

	FREEFLOW AA	Methanol
Dispersibility (OCCD 30)	Dispersible	Dispersible
Dispersed solution Log ₁₀ P ₅₀ , OCCD 117	Non-deaerating (0.00 P ₅₀ < 3)	Non-deaerating (0.00 P ₅₀ < 3)
Viscosity	0.9	0.8
Specific Gravity	0.81700 C	0.8
Flash Point	0.12 psi	52 F/11 C
Vapor Pressure (at 100 F)	< 300 for typical dosage	4.5 psi
Hazard Quotient (HQ)		FLOROR

FREEFLOW AA is compatible with existing materials: EPDM, Teflon, Kellogg, 304 SS, 316 SS, Alloy 20, compatibility of other metals.

Hydrate Control in Umbilicals

Products intended for use in umbilicals must adhere to strict standards for quality and purity to ensure problems free delivery to the tubular well. The SURFLO CERTIFIED line of umbilical safe products provides assurance that these standards have been met or exceeded.

Subsea conditions can promote the accumulation of hydrates in flow lines and production equipment that can lead to plugged flow lines, reduced production and increased safety concerns.

Order Nalco helps oil producers around the world mitigate the risk associated with hydrate deposition, in both topside and subsea operations.

Contact our experts to discuss your hydrate control needs.

ROGABA - COMPATIBILITIES

ELASTOMERS	
NATURAL RUBBER	N
POLYETHYLENE	N
NEOPRENE	Y
PVC	Y
HYALON	Y
TEFLON	Y
BUNA-N	Y
POLYPROPYLENE	Y
PLURKALAP	Y
E-RUBBER	Y
POLYURETHANE	Y
VITON	N
KALREX	Y
ALFAC	Y
HD POLYETHYLENE	Y
EDMERET WHITE	Y
NYLON 11	Y

METALS	
MILD STEEL	Y
ALUMINUM	Y
BRASS	Y
304 SS	Y
316 SS	Y
COPPER	Y
ALLOY 20	Y
HASTELLOY C-276	Y

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