



\$-SMART BLEND OPTIMIZER*

Blend Recipe Optimizer for Refiners & Traders

Gasoline, Diesel and Bunker

\$-Smart Blend Optimizer instantly makes money for Blenders, Refiners, and Traders:

- Maximizes blend profit using prices
- Meets all specs simultaneously
- Non-linear calculations reduce octane and RVP giveaway
- Respects inventory constraints
- Blends up to 15 blend components
- Selects/Compares "best" component to buy/use

Built-in calculators for:

- EPA Complex Model RBOB VOC reduction
- Ethanol Blends: Octane & RVP Boost

Built-in Libraries for:

- Colonial PL specs
- Domestic specs
- Export specs: EU, Asia Pacific, Latin America

Built-In User Manual and Guide

The software was designed by world-famous blending experts, Ara Barsamian and Ward Davis, to be easy to use by first-time users, which can be up and running in 15 minutes or less, and productive using all of its features in a couple of hours.

BLEND OPTIMIZER BENEFITS

- Maximizes Blend Profit
- Non-linear property calculations to minimize giveaway
- Extremely easy-to-use. You need only to decide the blend components, inventory and their prices.
- The most important specs and blendstocks are already in built-in Libraries, you can modify them or add new ones
- Has built-in the EPA Phase 2 model and Ethanol boost calculators
- Saves your time with pre-built "blend case" libraries for both US and metric units countries that can be "cloned" to suit your needs.

Case	Properties	Specifications	Limits/Prices	Optimize	Manual	Blend Values	Print/Save	Menu
Optimum Blend								
Blend Ethanol	Std LP Report	LP Details	Blend Values	EPA Model	Biases	Feasible: Optimized		
Objective Function = 1,645.97				<input checked="" type="checkbox"/> Blend Ethanol before EPA <input type="checkbox"/> Blend Biases Active?		2 Limits Hit (***)		
Last Run at: 10/28/16 12:03 PM				Blend Biases: Not Active				
Blend Stock	Amount, Bbl	Vol% in Blend	% of Option	Marginal Value	Blend Property	Result at Optimum	Spec Binding	
1 LVN	-	0.00	0.0	-0.46	Research Octane Number (RON)	85.1	>0 (NotActive)	
2 Alkylate	-	0.00	0.0	-9.93	Motor Octane Number (MON)	79.0	*** >79	
3 Raffinate	50,000.	25.00	100.0	3.34	(RON + MON)/2	82.0	>78	
4 n-Butane	30,501.2	15.25	61.0	0.00	API Gravity	66.6239	50.0 < 80.0	
5 Reformate	-	0.00	0.0	-17.16	Sulfur content, ppm w/	24	<80	
6 FCC LCN	-	0.00	0.0	-7.85	Mercaptan sulfur, ppm w/	0.000	<20 (NotActive)	
7 CNhp	-	0.00	0.0	-6.60	Reid vapor pressure, psia	14.34	14 < 14.8	
8 HN-mix comp	36,140.5	18.07	72.3	0.00	10% Distilled, deg F	95	70 < 122	
9 RBOB w Heel-13.5psi	50,000.	25.00	100.0	1.77	50% Distilled, deg F	160	150 < 230	
10 ICN	-	0.00	0.0	-6.27	90% Distilled, deg F	300	250 < 365	
11 Ethanol	-	0.00	-	0.00	End Point, deg. F	382	<430	
12 RBOB s Heel of 6psi	33,358.4	16.68	33.4	0.00	Driveability Index, deg F	923	<1200	
13					VIL 20, deg F	102.1	>102.0	
14					Olefins, volume percent	11.5	<25	
15					Aromatics, volume percent	16.5	<50	
					Benzene, volume perc	0.43	<13	
					Oxygenates, volume percent	0.0	*** 0 < 0 (NotActive)	
					Oxygen, weight percent	0.0	0 < 0 (NotActive)	
Total Blend 200,000. Bbl				Cost	39.4702			
Blend Minimum 100,000. Bbl				Sales Price	47.7000			
				Profit, \$/Bbl	8.2298			
				Total Profit, \$k	1,645.97			
				% Evaporated	N/A			
				E200, %	58.2			
				E300, %	90.			
				Driveability Index:	923			
				VIL=20, deg F:	102.1			
				VIL=20 with 10 % Ethanol, deg F:	115.8			
Octane Blending Method: Ethyl Corr (Regular)				Warnings: The Ethyl Octane equations are composition dependent. Rerun the optimizer until the Blend Composition does not change significantly.				

Who can benefit of the Smart Blend Optimizer?

The software is designed for people working in the Oil & Gas business, like refiners, traders, brokers, independent terminal operators, fuel buyers, customers, etc...

The Blend Optimizer, while deceptively easy to use, is a powerful economic tool which allows to understand quickly the profitability of a blend, selection of the right components to make gasoline, diesel and bunker, to meet specs, reduce the blend properties giveaway, verify EPA compliance, Ethanol boost.

After the user enters their own components, inventory and prices, the optimization is instantly done by clicking the "optimize" button.

The Optimum results window shows the user if the optimization is feasible or not, the optimum recipe, the optimum batch, blend predicted properties, and blend profit.

The tool is powerful because the user can play back (backcast) and change a variable, e.g. the inventory of one or more components to generate more blends recipe and compare the profit for various cases.

If the optimization is infeasible, the user can read the blend properties and understand which property is not met, to assist the user to change components, inventory, etc. to meet the spec.

To purchase or more info, please contact:

Lee Curcio
Refinery Automation Institute, LLC
6 Leslie Court
Morristown, NJ 07960
Phone: +203-945-7854;
Email: Lee@refautom.com

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* Refinery Automation Institute provides public and customized Blending and software training courses, to meet the customer needs.