Blending Models Equations Manual

Compiled By

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Table of Contents

Introduction

Overview

This document provides a handy reference for the following fuels (gasoline, diesel and fuel oil) qualities model equations. These models have default parameters and must be customized for specific refinery using the history of blend data.

Sr No	Gasoline	Distillates	Fuels
1	AddLead	API-Gravity	Aluminum
2	Antiknock Response	Cetane Improver	API-Gravity
3	API-Gravity	Cetane Number	Ash
4	Aromatics	Cloud Point Temp	Conradson Carbon Residue
5	Benzene	Drivability Index	Flash Point Temp
6	Bromine	E_V100C	Pour Point Temp
7	E_EP	E_V180C	Specific Gravity
8	E_P10	E_V200F	Sulfur
9	E_P30	E_V300F	Viscosity
10	E_P50	E_V70C	Water and Sediment
11	E_P70	Flash Point Temp	Xylene Number
12	E_P90	Freeze Point Temp	
13	Exhaust Benzene	Heat of Combustion	
14	Flexible Volatility Index	Naphthalenes	
15	Front End Octane	Nitrogen	
16	Lead	Polynuclear Aromatics	
17	M0BV	Pour Point Temp	
18	MLBV	R_EP	
19	MON0	R_IBP	
20	MONL	R_P10	
21	Olefins	R_P20	
22	Oxygen Content	R_P30	
23	Oxygenate Content	R_P50	
24	R0BV	R_P70	
25	RDOI	R_P85	
26	RLBV	R_P90	
27	RON0	R_P95	
28	RONL	Recover	
29	RVP	Smoke Point Temp	
30	RVPE	Specific Gravity	
31	RVPE_EPA	Sulfur	
32	Specific Gravity	Viscosity	
33	Sulfur		
34	VABP		
35	VLI		

OMS has developed a DLL (Dynamic Link Library) which can be used in VB, VBA, FORTRAN and C++ programs to calculated linear/non-linear blend properties. This DLL can be downloaded with its documentation from our website (www.globaloms.com) and used royalty free in your applications. This DLL can be used in the following manners:

1. Excel based application and VBA code to calculate blend properties to optimize the blend recipe
2. VB, VB.net based application to calculate blend properties to optimize the blend recipe
3. Blend optimizer developed by OMS in FORTRAN and links above DLL in both Excel based VBA, VB/VB.net to integrate the calculation and optimization of blend properties and blend recipe