

Haltermann Carless UK LTD. Grove House Guildford Rd, Leatherhead,
Surrey, KT22 9DF UK

SINETICA LDA
RUA DA ESTRADA NOVA 1096
3886-909 ESMORIZ
PORTUGAL

Certificate 10000163931

Date: 11/11/2019
Customer PO: 2019B02/145
Delivery Note: 80141588 000020
Order No.: 66135712 000020
Customer No.: 1763583

GMID: 2014032
Material: HIPERFLO TURBO ULTIMATE DEV2
54 Litre Keg

Revision No.: 2

Cust. Mat.:
Batch: 0000026917
Dlvy. Qty: 972,0 L15
Container ID: CMAU197300/8
Ship from: Harwich

Harwich, ES, United Kingdom

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Feature	Units	Results	Limits		Method
			Minimum	Maximum	
Density 15°C	kg/m3	768,0	720,0	785,0	ASTM D4052
R.O.N (corrected)		102,0	95,0	102,0	EN ISO 5164
M.O.N. (corrected)		86,6	85,0	90,0	EN ISO 5163
I.B.Pt.	°C	37,8			ASTM D86
10% v/v Evaporated at	°C	48,5			ASTM D86
50% v/v Evaporated at	°C	71,4			ASTM D86
90% v/v Evaporated at	°C	125,5			ASTM D86
% Evaporated at 70°C, E70	%(V/V)	48,8	20,0	52,0	ASTM D86
% Evaporated at 100°C, E100	%(V/V)	64,5	46,0	72,0	ASTM D86
% Evaporated at 150°C, E150	%(V/V)	> 98,4	75,0	-	ASTM D86
% Evaporated at 180°C, E180	%(V/V)	> 98,4			ASTM D86
F.B.Pt.	°C	147,6	-	210,0	ASTM D86
Residue	%(V/V)	0,7	-	2,0	ASTM D86
Vapour Pressure (DVPE) 37.8°C	kPa	63,9	-	80,0	ASTM D5191
Aromatic content	%(V/V)	34,3	-	35,0	EN ISO 22854
Olefin content	%(V/V)	15,9	-	18,0	EN ISO 22854
Benzene content	%(V/V)	< 0,1	-	1,0	EN 238
Diolefin content	%(m/m)	< 1,0	-	1,0	GC-MS
Sulphur Content	mg/kg	3,5	-	10,0	ASTM D5453
Lead content	mg/l	< 2,5	-	5,0	EN 237
Manganese content	mg/l	< 0,25	-	2,00	ASTM D3831
Nitrogen	mg/kg	< 40	-	2000	ASTM D5762
Oxidation Stability	min.	> 360	360	-	ASTM D525
Electrical Conductivity	pS/m	> 2000	200	-	ASTM D2624
Oxygen Content	%(m/m)	3,17	-	3,70	ELEMENTAL
ANALYSIS					
Carbon Content	%(m/m)	84,61			ASTM D5291
Hydrogen Content	%(m/m)	12,22			ASTM D5291
C/H Mass Ratio		6,92			CALCULATION
Atomic H/C Ratio		1,7210			CALCULATION
Atomic O/C Ratio		0,0281			CALCULATION

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Delivery item/date
80141588 000020 / 28/05/2019

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Feature	Units	Results	Limits		Method
			Minimum	Maximum	
Stoichiometric Air/Fuel Ratio		13,79			SAE J1829
Gross Heat of Combustion	MJ/kg	43,72			IP 12
Net Heat of Combustion	MJ/kg	41,12			IP 12

COA Additional Information

The certificate is electronically generated and valid without signature.

Haltermann Carless UK Ltd.

For enquiries please contact Customer Service or local Sales