

SGS**Copy 01 of 02****Certificate No. O-012767****CERTIFICATE OF QUALITY**

VESSEL: [REDACTED]
 L/C NO. & DATE: [REDACTED]
 B/L NO. & DATE: [REDACTED]
 PORT OF LOADING: KARACHI, PAKISTAN
 PORT OF DISCHARGE: [REDACTED]
 CONSIGNMENT: 200.307 METRIC TONS OF ETHANOL GRADE: ENA – IN BULK.
 SHIPPER: TANDLIANWALA SUGAR MILLS LIMITED, LAHORE – PAKISTAN
 BUYERS: [REDACTED]

THIS IS TO CERTIFY that in accordance with instructions received from Tandlianwala Sugar Mills Ltd, acting on behalf of [REDACTED] we have superintended above consignment on 10th May 2020 at Keamari, Karachi. We report as under:

SAMPLING/QUALITY: Before loading composite samples were drawn from [REDACTED] representative of quality of bulk delivery of consignment on board. Samples were labelled and sealed by us. One sealed sample of shore tanks composite was submitted to SGS Lab., Karachi for analysis. Results as received from the testing laboratory are reproduced hereunder:

PARAMETERS	METHOD	UNIT	SPECIFICATION	TEST RESULTS
Alcohol Strength @ 20 Deg C	OIML	Vol %	96.2	96.46
Dry Matter	ASTM D-1353-13	PPM	15	6
Acidity as (Acetic Acid)	ASTM D-1613-17	Mg/L	15	8.90
Total Acidity (as Acetic acid)	EC 625	Mg/L	10	3.86
Aldehydes as Acetaldehyde	OGC TG ETOH - 02	Mg/L	5	< 2.0
Esters as Ethyl Acetate	OGC TG ETOH - 02	Mg/L	10	< 2.0
Methanol	OGC TG ETOH – 02	Mg/L	20	< 2.0
Total Higher Alcohols				
• N-Propanol	OGC TG ETOH – 02	Mg/L	5	< 2.0
• Iso-Butanol			5	< 2.0
• N-Butanol			5	< 2.0
• Iso-Amyl Alcohol			5	< 2.0
• N-Amyl Alcohol			5	< 2.0
Permanganate Time Test at 15°C	ASTM D-1363-11	Minutes	35	48
AbsorbanceD(UV Spectrophotometer)	UV Spectrophotometer		Max 0.02	0.0014
• 270 nm			Max 0.06	0.0379
• 240 nm			Max 0.12	0.0883
• 230 nm			Max 0.25	0.1786
• 220 nm				

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PARAMETERS	METHOD	UNIT	SPECIFICATION	TEST RESULTS
Lead Content	ASTM D3559	-	N/A	< 1.0
Chloride	ASTM D7328	-	0.75	Not Detected
Curve	UV Spectrometer	-	Smooth & Regular	Smooth & Regular
Odor	Organoleptic	-	Neutral	Neutral
Color	Visual	-	Clear	Clear
Aspect	Visual	-	Clear Liquid free from suspended matter	Clear Liquid free from suspended matter

*Not Detected= (LDL = 2.0 mg/L

*Not Detected= (LDL = 1.0 mg/L (Lead)

NOTE: 1. The above parcel was loaded on board in Ship Tank Nos.7S (Total 01 tanks).

The results shown in this test report specifically refer to the sample(s) tested as received unless otherwise stated. All tests have been performed using the latest revision of the methods indicated, unless specifically marked otherwise on the report. Precision parameters apply in the determination of the above results. Users of the data shown on this report should refer to the latest published revisions of ASTM D-3244; IP 367 and ISO 4259 and when utilising the test data to determine conformance with any specification or process requirement. This report shall not be reproduced except in full, without the written approval of the laboratory. Unless otherwise stated the samples referred to in this DOCUMENT represent an average obtained through random sampling and will be retained for a maximum period of 3 months unless instructions to the contrary are received at the time and place of sampling.

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SGS PAKISTAN (PRIVATE) LTD.

