## To Whom It May Concern



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elsewhere, shall extend to any party other than such named client.

## **Analysis Report**

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Report number : 12004/00131331.1/L/21 Composite prep date : 03-04-2021

Place of sampling : Esso Rotterdam Main Object : Gigantia

Petroleumhaven

Report Date : 06-04-2021 Date received : 03-04-2021 : 04-04-2021 Date of issue : 04-04-2021 Date completed Sample object : 11405118 : Gigantia Sample number

Sample type Composite

Sample submitted as : Naphtha Light Virgin

Marked : Barge Gigantia multiple tank composite after loading

NAME	METHOD	UNIT	RESULT
Appearance	Visual	-	Bright & Clear
Color Saybolt	ASTM D 156	-	+30
Density at 15 °C	EN ISO 12185	kg/m³	685.0
PIONA	PNA-analyser		
Paraffins		vol %	72.7
I-paraffins		vol %	38.3
N-paraffins		vol %	34.4
Olefins		vol %	0.3
Naphtenes		vol %	24.1
Aromatics		vol %	3.0
Unsaturates		vol %	3.3
C4 & lighter		vol %	0.6
Benzene	GC	vol %	1.84
Total Organic Chloride	UOP 779	mg/kg	< 0.50
Distillation	ASTM D 86		
Initial boiling point		°C	37.1
5% Evaporated		°C	48.0
50% Evaporated		°C	64.1
90% Evaporated		°C	86.3
Final boiling point		°C	99.0
Residue		vol %	0.9
5% - 90% Evaporated		°C	38.3
Lead (Pb)	GF-AAS	μg/kg	<10
Organic oxygenate compounds	ASTM D 7423		
Methanol		mg/kg	< 5
Ethanol		mg/kg	27
MTBE		mg/kg	< 5
ETBE		mg/kg	< 5
Total Oxygenates		mg/kg	105
Sulphur (S)	ASTM D 5453	mg/kg	125
Hydrogen Sulfide and Mercaptan Sulphur	UOP 163		
Hydrogen Sulfide, as S		mg/kg	4

METHOD

All results in this report refer to the sample(s) tested as taken or submitted like specified in this Analysis report. Uncertainties, available on request, apply in the evaluation of the test results. All tests are conducted according to the latest version of the methods, unless another version is specifically indicated. Where available and for convenience purposes, the tested sample has been checked for compliance with supplied specifications, without accepting any liability. In case of dispute or concern, we refer to the interpretation of test results as defined in ASTM D3244, IP 367, ISO 4259 or GOST 33701. This report shall not be partially copied and reproduced without the written permission of the laboratory.

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Sample type : Composite

Sample submitted as : Naphtha Light Virgin

Marked : Barge Gigantia multiple tank composite after loading

NAME	METHOD	UNIT	RESULT
Mercaptan, as S		mg/kg	103
Mercury (Hg)	DMA 80	μg/kg	3
Motor Octane Number (MON)	ASTM D 2700	-	70
Research Octane Number (RON)	ASTM D 2699	-	70
Gum Content	ASTM D 381		
Gum Content (unwashed)		mg/1000 mL	<1
Gum Content (solvent-washed)		mg/1000 mL	<1
DVPE @ 100F	ASTM D 5191	kPa	64.5
Free water	Visual	-	None
Arsenic (Aa)	GF-AAS		
Arsenic (AS)		μg/kg	<10 (<1)

samples of nonhomogeneous cargoes due to the inherent nature of the cargo and the sampling restrictions.

Signed by: Judith Kram - Account Manager

Issued by: Saybolt Nederland BV Place and date of issue: Rotterdam-Botlek - 04-04-2021

Print Date: 06-04-2021 08:55

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<sup>~</sup> Due to restrictions enforced by terminal/refinery/vessels management and/or local laws and regulations, samples of concerned object have been taken via a closed/restricted sampling system.

With reference to API MPMS 12.11 it should be noted that when taking vessel samples, it may not be possible to obtain representative