NK Rosneft PJSC

RN-Krasnodarneftegaz LLC
Enlarged oil-field No. 4 (Oil Refining Unit, ORU No. 4)

QUALITY CERTIFICATE No. 151

A mixture of liquefied petroleum gases (LPGM)

TS 0251-006-00148300-2003 with amendments 1-2

Manufacturer: RN-Krasnodarneftegaz LLC, ORU No. 4

Legal address: Russia, 350000, Krasnodar, Kubanskaya embankment, 47

Actual address: Russia, 02581, Krasnodar Krai, Slavyansky district, kh. Baranikovsky

Date of sampling: 24.10.19

Capacity No. E-1/1

Product quantity (m^3) 85.0

No. Item No.	Name of indicators, meas. units	Norm according to TS 0251-006-00148300-2003 with amendments 1-2	Test result
1	Mass fraction of components. % :		
	methane, ethane	not standardized	4.5
	Propane	maximum 65.0	34.1
	the amount of butanes	maximum 70.0	55.4
	the amount of pentanes and heavy hydrocarbons	maximum 10.0	6.0
2	The mass fraction of hydrogen sulfide and mercaptan sulfur, %	maximum 0.013	0.0047
	including hydrogen sulfide, %	maximum 0.003	0.0028
3	Saturated vapor pressure is excessive, MPa, at a temperature of plus 45°C	maximum 1.6	1.4
4	Free water content	Absence	Absence
5	Odor intensity, Point	minimum 3	Not defined

Note:

The results are determined by the manufacturer in the Testing Laboratory (TL) LLC RN-Krasnodarneftegaz, certificate of accreditation No. RA.RU.22.HT28 dated 22.07.2015

Head of ORU No. 4 /signature/ A.G. Azizyan

Head of TL No. 3 /signature/ N.V. Pokhlebaeva

Date of issue of the quality certificate: 24.10.2019

EXAMPLE