Joint Stock Company RYAZAN OIL REFINING COMPANY

Russian Federation, Ryazan city e-mail: nipk@rosneft.ru, tel.: (4912) 933240, fax: (4912) 933084

Роснефть

The quality management system complies with the requirements of ISO 9001:2008, certificate 31100440 QM 08, valid until June 30, 2018

CERTIFICATE No. 16496

isobutane fraction of the highest grade

• TS 0272-025-00151638-99 with amendments No. 1, 2

• OKP 02 7234

Test report No.: 6497 Batch No. 16496 Capacity E-42 Quantity: 75 m3 Date of manufacture: 30.07.2016 Date of sampling: 30.07.2016 Test date: 31.07.2016

The tests were carried out in the Testing Laboratory of JSC RNPC.

Certificate of accreditation No. RA.RU.21HK40, date of entry of information into the register of accredited entities 27.01.2015

| No. Item No. | Name of the indicator | Test method | Norm according to TS 0272-025- 00151638-99 | Actual value |
|--------------------|---|---|--|---|
| | Mass fraction of components, %: the amount of C1-C2 hydrocarbons propane isobutane the amount of butylenes Normal butane the amount of C5 hydrocarbons and higher * propylene * the amount of butanes | GOST 10679 | Not standardized maximum 1.3 minimum 98.0 maximum 0.5 maximum 0.7 Absence | 0.00 0.24 99.20 0.06 0.30 Absence 0.20 99.50 |
| 2 | Mass fraction of hydrogen sulfide and mercaptan sulfur, % | GOST 22985 | maximum 0.005 | 0.0000 |
| 3 | Free water and alkali content | Acc.to item 5.2 of these TS (tech specs) | Absence | Absence |

* determination of indicators for the purpose of identification and classification of liquefied petroleum gases in accordance with the Customs Union Commodity Classification of Foreign Economic Activity (Letter No. C3-73-80672 dated 14.08.2014).

<u>Conclusion:</u> The isobutane fraction of the highest grade conforms; * TS 0272-025-00151638-99 with amendments No. 1, 2

Additional Information:

* The products are manufactured under the control established in the Quality Management System conforming to the requirements of ISO 9001:2008, certificate 31100440 QM08; Environmental management system conforming to the requirements of ISO 14001:2004 + Cog 1:2009, certificate 31100440 UM; Energy management system conforming to the requirements of ISO 50001:2011, certificate 31100440 EMSt; Occupational safety and Health Management System conforming to the requirements of BS OHSAS 18001:2007, certificate 31100440 BSOH.

* Sampling according to GOST 14921.

* Marking, transportation and storage - according to GOST 1510.

* The warranty period of storage is 3 months from the date of manufacture

Shift Engineer-Technologist of shop No. 11 <u>signature</u> E.V. Shvedova (power of attorney No. 768 dated 21.12.2015) Certificate issue date: 31.07.2016 00:19

Round stamp: / Joint Stock Company Ryazan Oil Refinery Ryazan Workshop No. 11 COMMODITY and RAW MATERIALS/

Rectangular stamp: / Illegible JSC RMPK THE COPY IS CORRECT illegible Signature Z.A. Akulova/ Joint Stock Company RYAZAN OIL REFINING COMPANY

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Роснефть

WIIIP

Appendix to Certificate No. 16496 dated 31.07.2016

Isobutane fraction the highest grade TS 0272-025-0615163YA-99

| Nos. | Designation of a legislative act, regulatory | Information required for the product description | | | |
|-------------|--|--|----------------|-----------------|--|
| Item No. | document or set of rules | Name of indicator | Test method | Actual value | |
| 1 | Tax Code of Ukraine | Density at 15°C, kg/m ³ | GOST 28656 | 563 | |

Shift Engineer-Technologist of shop No. 11 signature E.V. Shvedova