



JSC Ryazan Refining Company
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ISO 9001:2015 Quality Management System Certificate No. 31100440 QM15
Certificate validity period: through 29.06.2024

QUALITY CERTIFICATE No. 28069 Fraction of normal butane, grade B

Document establishing product specifications:
TU 0272-026-00151638-99 "Fraction of normal butane. Technical specifications."
OKPD 2 Code 19.20.31
Batch number: 28069
Date of manufacture: 30.10.2021
Batch size: 75 m³
Sampling location (according to GOST 14921-2018): tank No. E-145
Date of sampling: 30.10.2021
Test date: 30.10.2021
The tests were performed: Shop № 10 Testing Laboratory -
Central Factory Laboratory
The certificate was issued based on the quality analysis dd 30.10.2021 No. 9674

| Item No. | Indicator | Testing method | GOST 9572-93 Standard | Actual value |
|----------|--|--|--|---|
| 1 | Mass fraction of components, %: propane Isobutane total amount of butylenes normal butane total amount of iso- and normal pentane and above *propylene *total amount of butanes | GOST 10679-2019 | no more than 1.0 not standardized no more than 2.0 no less 70.0** no more than 5.0 - - | 0.154 0.115 0.145 99.485 0.027 0.031 99.600 |
| 2 | Mass fraction of hydrogen sulfide and mercaptan sulfur, % | GOST 22985-2017 | no more than 0.01 | 0.0008 |
| 3 | Free water and alkali content | As per p. 5.3 TU 0272-026-00151638-99 | absent | absent |

* determining indicators in order to identify and classify liquefied hydrocarbon gases in accordance with the Customs Union Commodity Classification for Foreign Economic Activity (letter No. C3-73-80672 dd 14.08.2014).

Conclusion: Fraction of normal butane, grade B **meets the technical specifications of:**

- TU 0272-026-00151638-99 "Propane-propylene fraction. Technical specifications."

Additional Information:

- marking, transportation and storage - according to GOST 1510-84;
- the warranty period of storage is 3 months from the date of manufacture.

L.S.

Shift process engineer, shop No. 11
(Power of attorney No. 381 dated 18.12.2020)
Certificate issue date 30.10.2021 16:42

signature

I.A. Markov