



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. 29881 Propane-propylene fraction, grade A

Document establishing product specifications:
TS 0272-024-00151638-99 "Propane-propylene fraction. Technical specifications."
OKPD 2 Code 19.20.32
Batch number: 29881
Date of manufacture: 31.12.2021
Batch size: 160 m³
Sampling location (according to GOST 14921-2018): tank No. E-4
Date of sampling: 31.12.2021
Test date: 31.12.2021
The tests were performed: Shop No. 10 Testing Laboratory -
Central Factory Laboratory
The certificate was issued based on the quality analysis dd 31.12.2021 No. 11856

| Item No. | Indicator | Testing method | Standard according to GOST 9572-93 | Actual value |
|----------|---|--|--|---|
| 1 | Mass fraction of components, %: total amount of C ₂ hydrocarbons propane propylene total amount of C ₄ hydrocarbons total amount of C ₅ and higher hydrocarbons *total amount of butanes *total amount of butylenes | GOST 10679-2019 | no more than 2.00 not standardized no less than 65.00 no more than 5.00 no more than 0.010 - - | 0.051 24.843 74.970 0.136 less than 0.010 0.136 less than 0.010 |
| 2 | Mass fraction of hydrogen sulfide, % | GOST 22985-2017 | no more than 0.002 | less than 0.0002 |
| 3 | Free water and alkali content | As per p. 5.3 TU 0272-024-00151638-99 | 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: Propane fraction Grade A **meets the technical specifications of:**
- TU 0272-024-00151638-99 "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)
Quality certificate issue date 31.12.2021 10:40

signature

I.A. Markov