

Limited Liability Company Tuymazinsky Gas Processing Plant, 452774, Russian Federation, Republic of Bashkortostan, Tuymazinsky district, Nurkeevo village, Promyshlennaya str., 42

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## QUALITY CERTIFICATE No. 17

EAL

Declaration of Conformity EAEU N RU D-RU.AB04.B.02311/19 valid till 16.06.2022

## Liquefied petroleum gas for municipal consumption, propane-butane technical (PBT) grade, according to GOST 20448-2018

Designation of documents that establish requirements to products:

GOST 20448-2018 "Liquefied petroleum fuel gases for municipal consumption. Specifications"

OKPD 2 Code: 19.20.31

Date of manufacture: 16.12.2021

Test date: 16.12.2021

Place of sampling (according to GOST 14921): railway tank car 50507078, Batch number: 17

Batch size (mass): 35100

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Name of the indicator	The norm of the indicator according to GOST 20448-2018 PBT grade	The norm of the indicator for the EAEU TR 036/2016	Test result	Method method
1. Content of components:				
- the amount of methane, ethane and ethylene, mass fraction, %	Not standardized, Definition required	not standardized	4.29	GOST 10679
- the amount of methane, ethane and ethylene, molar fraction, %				
the amount of propane and propylene, mass fraction, %	Not standardized, Definition required		49.04	
- the amount of propane and propylene, molar fraction,				
- the amount of butanes and butylenes, mass fraction, %	maximum 60.0		46.67	
- the amount of propane and propylene, molar fraction,	maximum 54.0			
2. The content of hydrogen sulfide and mercaptan sulfur				
-mass fraction, %	maximum 0.013	maximum 0.013	0.0059	GOST 22985
-molar fraction, %	maximum 0.009			
including hydrogen sulfide				
-mass fraction, %	maximum 0.003	maximum 0.003	0.00090	
-molar fraction, %	maximum 0.005			•
3.Saturated vapor pressure, excessive, MPA, at a temperature of - plus 45°C	maximum 1.6	maximum 1.6	1.2	GOST 28656
4. Volume fraction of liquid residue at 20°C, %, max	1.6	1.8	0.0	item 9.2 and Appendix B GOST 20448
5. Free water and alkali content	Absence	Absence	Absence	item 9.2 and Appendix B GOST 20448
6. Odor intensity, Point*	minimum 3	minimum 3	-	GOST 22387.5

Product filling temperature (°C) —1

The density of the product at the filling temperature (kg/m3) - 553

**Conclusion:** The quality of the products corresponds to the propane-butane-technical (PBT) grade according to the requirements of GOST 20448-2018 "Liquefied petroleum gas fuel for municipal consumption. Specifications"

Additional requirements:/'

- -\* when the mass fraction of mercaptan sulfur is 0.002% or more, it is allowed not to determine the intensity of the odor; if the mass fraction of mercaptan sulfur is less than 0.002% or the odor intensity is less than 3 points, the liquefied gases must be odorized in the prescribed manner.
- transportation and storage should be carried out according to the requirements of GOST 1510-84.
- the manufacturer (LLC Tuymazinskoe GPP) guarantees that the quality of the product meets the requirements of GOST 20448-2018 within 6 months from the date of manufacture, provided that the consumer complies with the conditions of transportation and storage

Seal. l	Laboratory assis	stant of	chemical analys	si <mark>s</mark>	/signature/	L.D.	Kurmangalina
Certif	icate issue date	18 12	2021				