

PJSC Ufaorgsintez
450037, Russian Federation, Republic of Bashkortostan, Ufa
Quality management division
Laboratory for quality control of the products of petroleum hydrocarbon pyrolysis processes and pyrogas separation

TEST PROTOCOL No. 08-01-306 dd December 17, 2019.

Tested item	<u>Ethane fraction TU0272-022-00151638-99</u>
Document regulating the requirements to the target parameters of the tested item	<u>TU 02 72-022-00151638-99</u>
Sampling/receipt date	<u>17.12.2019</u>
Sampling location	<u>Bottom of column (process vessel 2)</u>
Sampler's last name and initials	<u>A.A. Kutlieva</u>
Sample (batch) registration number	<u>Ethane/17/12/12</u>
Regulatory document for sampling methods (sampling conditions, etc.)	<u>GOST-14920-79</u>
Date (or date range) of test	<u>17.12.2019</u>
Mass (volume) of the sample (shipped products)	<u>0,5 dm³</u>

Equipment details:

Name	Inventory . number	Verification certificate	valid through
Chromatec Crystal9000 gas chromatograph	143000022254	No.11/3221	03.04.2020
Chromatec Crystal9000 gas chromatograph	80272	No.11/3713	27.03.2020
Chromatec Crystal9000 gas chromatograph	143000021996	No.11/16142	20.11.2020

TEST RESULTS

Item No.	Indicator to be determined	RD for test method	RD Standard	Result of testing
1	Mass fraction of methane, %	GOST 14920	no more than 2,0	less than 0,1
2	Mass fraction of ethane, %		no less than 95,0	98,41
3	Mass fraction of propane, %		no more than 3,0	0.09
4	Mass fraction of total amount of HC C ₄ and above, %		not standardized	0.54
5	Mass fraction of carbon dioxide, %	GOST 24975.1	no more than 0,02	0.002

Laboratory Director signature A.V. Bronnikova

5th grade laboratory analyst signature M.I. Gracheva

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