



## QUALITY CERTIFICATE No. 187

### Ethyl alcohol technical synthetic, rectified and denatured A Grade premium GOST R 51999-2002 with amendments No. 1, 2

**Date of manufacture** December 31, 2021 **Net volume** 7726.12 dal measures  
**Date of sampling:** December 31, 2021 **Rail tank car No.** 55728810  
**Testing date** December 31, 2021

The tests were carried out at the Test Center – Quality Control Department of NNK JSC  
 Certificate of accreditation No. ROSS RU.0001515720. Date of information entry into the register of accredited entities July 29, 2015.

Item No.	Name of the indicator	Norm	Actual	Testing method
1	Overall view	Colorless transparent liquid without mechanical impurities	Colorless transparent liquid without mechanical impurities	GOST R 51999-2002, cl. 7.3
2	Odor	Characteristic odor of rectified spirit without the smell of foreign substances	Characteristic odor of rectified spirit without the smell of foreign substances	
3	Volume fraction of ethyl alcohol, %	not less than 96.2	96.4	GOST 3639-79 cl. 2.1
4	Oxidability at 20°C, min	not less than 15	20	GOST 32036-2013 cl. 6.6
5	Mass concentration of acids as equivalent of acetic acid, mg/dm <sup>3</sup>	not more than 8	less than 7	GOST 32036-2013 cl. 6.9
6	Mass concentration of acetaldehyde as equivalent of acetic anhydrous alcohol, mg/dm <sup>3</sup>	not more than 4	1	GOST R 51999-2002, cl. 7.7
7	Mass concentration of acetaldehyde as equivalent of acetic anhydrous alcohol, mg/dm <sup>3</sup>	not more than 5	less than 0.7	
8	Mass concentration of C <sub>3</sub> +C <sub>4</sub> alcohols (propanol-1, propanol-2, butanol-1, butanol-2, isobutanol) as equivalent of anhydrous alcohol, mg/dm <sup>3</sup>	not more than 8	4	
9	Mass concentration of crotonaldehyde, mg/dm <sup>3</sup>	absence	absence	
10	Volume fraction of methyl alcohol as equivalent of anhydrous alcohol, %	not more than 0.005	less than 0,0004	

Note. For the production of perfumery and cosmetic products, alcohol of grades A and B of the highest (premium) grade is intended

**Conclusion: Ethyl alcohol technical synthetic rectified and denatured Grade A premium meets the requirements:**

- GOST R 51999-2002 with amendments No. 1, 2

The manufacturer guarantees the product quality conformance with this standard, subject to meeting the terms of transportation and storage.

The warranty period of storage is 1 years from the date of manufacture

L.S. Specialist \_\_\_\_\_ /signature/  
 (signature)

Egorova E.I.  
 (surname, initials)

Certificate issue date: December 31, 2021

/stamp /Russian Federation Samara Region\*  
 Novokuibyshevsk\* Joint Stock Company Novokuibyshevsk  
 Petrochemical Company\*  
 For documents\*/