On approval of the technical regulation “Bioethanol Safety Requirements"

Invalidated Unofficial translation

Decree of the Government of the Republic of Kazakhstan No. 179 dated February 24, 2011. Abolished by the Decree of the Government of the Republic of Kazakhstan dated March 31, 2021 No. 189

Unofficial translation

Footnote. Abolished by the Decree of the Government of the Republic of Kazakhstan dated March 31, 2021 No. 189

In accordance with the Law of the Republic of Kazakhstan dated November 9, 2004 "On Technical Regulation", the Government of the Republic of Kazakhstan **HEREBY DECREES AS FOLLOWS**:

1. That the attached technical regulation "Bioethanol Safety Requirements" shall be approved.

2. This Decree shall come into effect upon expiry of six months from the date of first official publication.

Prime Minister of the Republic of Kazakhstan *K. Massimov*

Approved by
Decree of the Government of the
Republic of Kazakhstan
No. 179 dated February 24, 2011

Technical Regulation
"Bioethanol Safety Requirements "
1. General provisions

1. This Technical Regulation establishes the safety requirements for produced (manufactured) and imported bioethanol, which is included in subgroup 2207 of group 22 "Ethyl Alcohol Non-Denatured with an Alcohol Concentration of 80 (vol.)% or More; Ethyl Alcohol and Other Alcohols Denatured of Any Concentration" according to the Foreign Economic Activity Unified Commodity Nomenclature of the Customs Union (FEAUCN CU).

2. Dangerous factors in the production and turnover of bioethanol are:

1) careless handling of chemical preparations and reagents;

2) careless handling of fire during the production, use, transportation, packaging and storage of bioethanol;

3) packaging leaks and spills;

4) increased or decreased temperature of the environment, equipment surfaces;

5) hazardous operating processes in which excess heat is released;

6) mixing fuel with other liquids;

7) bioethanol entering drinking water;

8) contact with the eyes, the gastrointestinal tract, the mucous membrane and on the skin of a person ovine.

3. Identification of bioethanol shall be carried out by labeling and accompanying documents, parameters, indicators and requirements, which together are sufficient for identification.

Identification shall be carried out using regulatory documents on standardization, establishing requirements for bioethanol, using one of the following methods or a combination of these:

1) analysis of documents characterizing a batch of bioethanol;

2) research and (or) bioethanol tests .

2. Terms and definitions

4. This Technical Regulation, uses the terms and definitions established by the legislation in the field of state regulation of production and turnover of petroleum products and technical regulation, as well as used by this Technical Regulation:

1) biofuel - liquid or gaseous fuel for transport and other equipment made from biomass;

2) biomass - a biodegradable fraction of products, waste and agricultural residues (including plant and animal substances), forestry and related industries, as well as a biodegradable fraction of industrial and municipal waste;

3) bioethanol - ethyl alcohol obtained in the process of processing plant materials used as biofuel, subjected to denaturation;

4) denaturation - ensuring the availability of denaturing additives in bioethanol, that is, additives harmful to the body, with an unpleasant taste or smell, completely soluble in alcohol and not isolated by the simplest physicochemical methods (distillation, freezing);

5) bottom heel - the level of fuel residue in the tank, which, in view of the features of its design, cannot be removed;

6) embankment - a system of barrage structures or earthen ramparts to protect areas subject to potential flooding when surface water levels change (high water, snow melt food, tides and wind surge), as well as to limit the area of oil spills around tank farms.

3. Circulation conditions on the market for bi-ethanol

5. Bioethanol in circulation on the market of the Republic of Kazakhstan must comply with the requirements established by these Technical Regulations and must be accompanied by a bioethanol passport and a certificate of conformity.

6. The implementation of pure bioethanol at gas stations shall be prohibited. It shall be allowed to sell gasoline with a bioethanol content of at least 5, but not more than 10 percent.

7. The bioethanol passport shall contain the following information:

1) the name of bioethanol, its target value;

2) the name, location of the manufacturer and his authorized representative, the country of origin of bioethanol , the name and location (address, telephone number) of the implementing entity;

3) information on documents containing standards that this bioethanol complies with;

4) production date and batch number;

5) net mass in containers;

6) ecological class of equipment for which it is intended;

7) cargo hazard classification code;

8) the norms that meet the requirements of this Technical Regulation, the actual values of these characteristics, determined by the test results, the date of sampling, the tank number (batch number) from which this sample was taken;

9) the date of the analysis of bioethanol ;

10) information on the presence and name of additives added to bioethanol , or on the absence of additives;

11) storage conditions of bioethanol ;

12) information about manipulation marks;

13) information on the certificate of conformity;

14) information on the safe storage, transportation, sale, use and disposal of bioethanol .

The bioethanol passport issued by the manufacturer shall be signed by the head of the enterprise or his authorized person and certified by a seal.

8. The import of bioethanol shall be limited or completely prohibited if it leads to the generation of waste, the disposal of which is associated with high environmental risk or is not economically feasible.

4. Bioethanol safety requirements

9. Bioethanol must meet the requirements specified in Annex 1 of the Technical Regulations.

10. The content in bioethanol of dyes (except for green and blue) and a label substance shall be allowed .

11. To improve the performance of bioethanol, it shall be allowed to use anticorrosive, detergent and multi-functional additives that do not have harmful side effects.

5. Industrial Safety Requirements

12. During the operation of distillation plants it shall be prohibited to:

1) work in the presence of smudges of bioethanol in oil seals, piping ah, flanged joints and other installation elements;

2) use naked flame;

3) perform work with heated metal objects (soldering irons), with equipment and tools capable of giving a spark;

4) to store flammable materials in the distillation department itself ;

5) increase the overpressure in the columns of the installation not more than 0.05 MPa;

6) carry out cleaning of individual devices of distillation plants during their operation.

13. In order to prevent fire, the following shall be prohibited:

1) the formation of an explosion of hazardous mixtures inside the apparatus and pipelines as a result of air leaks;

2) the release of explosive gases (ethylene, fuel gas), bioethanol vapors into the atmosphere as a result of a leak in the process equipment;

3) the formation in the air of explosive concentrations of bioethanol above the lower explosive limit;

4) self-ignition of hydrocarbon polymers formed on the walls of apparatus and pipelines;

5) shock of the liquid (i.e., shocks, supply of the product with an incident jet).

14. The temperature of the outer surfaces of the equipment and the covers of thermal insulation coatings shall not exceed the autoignition temperature of the products.

15. During repair work, the remains of bioethanol and its vapors shall not pose a threat of explosion and (or) fire.

16. Electrical equipment and lighting must be explosion-proof, equipment and piping must be earthed.

6. Requirements for the safety of production processes

17. For each bioethanol tank, a technological card shall be compiled, in which the tank number, its purpose, maximum filling level, minimum residue, filling and emptying rates shall be indicated.

Tank manhole covers shall be closed tightly.

18. Compounding of bioethanol must exclude the possibility of separation of bioethanol from fuel during its circulation.

19. In the pumping rooms of the tank farm: floor, walls, threshold shall be cemented with iron. The floor shall have an incline in the direction opposite to the door with a pit. In the event of its spillage, bioethanol shall be pumped out of the pit by a pump for disposal or returned to processing.

20. Each group of tanks or a tank individually shall be bunded with an earthen or concrete shaft.

21. The free volume inside the embankment shall be equal to:

1) for separate tanks - the total capacity of the tank;

2) for a group of tanks - the capacity of a larger tank.

The height of the embankment shall be more than 0.2 m of the calculated level of spilled bioethanol.

22. Storage tanks for bioethanol shall be firmly fixed to the foundation.

23. At the lowest point of the bottom of the tank, a dispensing pipe having a locking device shall be attached.

24. To monitor the level of bioethanol in the tanks, explosion-proof level gauges with level limit alarms shall be installed to prevent overfilling of the tanks.

25. Each tank shall be equipped with a breathing valve with a fire fuse.

26. Spark arresters, spark extinguisher, flame retardants, dust and metal catchers and anti-explosive devices, static electricity protection systems installed on technological equipment, pipelines and other places shall be kept in working condition.

The tank farm shall be fenced and equipped with burglar alarms. The alarm shall be constantly switched on.

27. All explosive and fire hazardous areas shall be provided with two-way telephone communication, and interconnected (tank farm, reception and dispensing departments of finished products, overpasses for loading and discharging bioethanol) shall be signaled by the operation of interconnected units.

7. Requirements for packaging, storage and transportation

28. Bioethanol that meets the requirements of this Technical Regulation and has documents that ensure the traceability of the product chain shall be accepted for storage.

29. Premises, buildings and structures for storing bioethanol shall be provided with intact primary fire extinguishing equipment, as well as with automatic fire alarms and automatic fire extinguishing systems, in accordance with Decree of the Government of the Republic of Kazakhstan No. 14 dated January 16, 2009 “On Approval of the Technical Regulations” General Requirements to Fire Safety" and Decree of the

Government of the Republic of Kazakhstan No. 796 dated August 29, 2008 " On Approval of the Technical Regulations "Requirements for Equipment Buildings, Facilities and Structures with Automatic Fire Extinguishing Systems and Automatic Fire Alarms, Warning and Evacuation of People in Case of Fire."

30. Transport containers with bioethanol shall be hermetically plugged, sealed, to completely prevent leakage and spraying of the product. To ensure safety when transporting bioethanol in barrels, packaging on flat pallets shall be used.

31. Tanks and pipelines designed for storage and transportation of bioethanol shall be protected from static electricity.

32. The surface of tanks and containers in contact with bioethanol shall not react with it and be a source of contamination.

33. The degree of filling containers with fuel shall be no more than 95 percent of the volume.

34. Tanks served for preparing eggs for filling shall be accompanied by a document containing the name of the merged product. In the absence of this document, the name of the merged product shall be established by analysis of the residue from the tank.

35. It shall be prohibited to pour bioethanol into tanks with a freely falling stream. Injection of bioethanol shall be carried out under the level of liquid available in the tank, that is, the input of the pipeline supplying the product shall be below the level of the bottom heal of the product.

When bioethanol is pumped from above or below empty tanks, that is, in cases where there is no bottom heal, special precautions shall be taken (slow injection, enhanced monitoring).

36. Tanks shall be filled taking into account the full use of their capacity, as well as the volume expansion of the product with a possible temperature difference along the route, but not more than the carrying capacity of the vehicle.

37. Bioethanol shall be completely drained from tanks. Moreover, in tanks that do not have a lower drainage device, the remainder of the height shall be no more than 1 cm.

38. After filling, the container shall be wiped.

39. Storage and transportation of bioethanol shall be carried out in hermetically sealed containers, preventing leakage.

40. Bioethanol in containers shall be stored on shelves, pallets or piles in covered warehouses, under a canopy or on a planned site, protected from direct sunlight. The container with fuel shall be installed with plugs up.

41. The following shall be prohibited:

1) operation of leaking equipment and valves;

2) a decrease in the height of embankment established by the design standards;

3) the operation of tanks with warps and cracks, as well as faulty equipment, instrumentation, supply pipelines and stationary fire fighting devices;

4) the presence of trees and shrubs in the embankment zone .

42. It shall be prohibited to store bioethanol in combustible containers, in rooms of basement and basement floors that do not have windows with smoke extraction pits, as well as when common stairwells of buildings communicate with these floors.

43. Regardless of the size of the containers, vigorous mixing of the products shall be prohibited during loading. On the surface of the bioethanol shall not be any foreign floating objects.

44. The newly manufactured metal packaging shall be with an internal oil and gas resistant and vapor resistant protective coating that meets the requirements of electrostatic intrinsic safety.

45. Transportation of bioethanol shall be carried out by means of specially equipped and approved vehicles for transportation in accordance with the requirements for the transport of dangerous goods operating on the appropriate mode of transport.

46. Transport packaging with fuel shall be sealed.

8. Safety requirements for utilization and disposal

47. In case of non-compliance of bioethanol with the requirements of these technical regulations, bioethanol (hereinafter referred to as “Inappropriate Bioethanol”) shall be disposed of or destroyed.

48. The decision to prohibit the production or trafficking of bioethanol shall be taken by the state body that has identified hazardous products, in accordance with the competence and in the manner established by the legislation of the Republic of Kazakhstan.

The manufacturer, seller (hereinafter referred to as the Owner) of the Inappropriate Bioethanol shall withdraw it from production or turnover for disposal or destruction on its own or on the basis of a prescription from state authorities.

49. Inappropriate Bioethanol for the period necessary for the examination, adoption and execution of a decision on its further disposal or destruction shall be temporarily stored in the owner’s specially designated places subject to conditions that exclude access to it. Inappropriate Bioethanol placed in temporary storage shall be subject to strict records by the Owner.

50. Further use of processed Inappropriate Bioethanol shall be possible only after the completion of the conformity assessment procedure.

51. Destruction shall be carried out in compliance with the mandatory requirements of legislation in the field of environmental protection and sanitary and epidemiological

well-being of the population in a technically accessible way (thermal, chemical, mechanical or other effects), as a result of which Inappropriate Bioethanol is completely destroyed.

52. For the destruction of Inappropriate Bioethanol by a decision of the executive local authorities, a Commission for the destruction of products shall be established with an indication of the duration of its work.

53. The commission for the destruction of products shall include representatives of the authorized body in the field of biofuel production , the authorized body in the field of biofuel turnover , the state sanitary and epidemiological surveillance, the authorized body in the field of environmental protection, non-governmental organizations and associations (unions) of private entrepreneurship entities.

Before a decision is made by the commission upon the initiative and at the expense of the Owner, an additional laboratory examination may be carried out in accredited laboratories on bioethanol recognized as Inappropriate one.

54. The commission shall draw up an act of destruction, which indicates: the date and place from the abandonment of the act, if necessary, the name of the offender who owns the product, the name and quantity of the product to be destroyed; method of destruction, time and place of destruction; surnames, first names, patronymics and positions of members of the commission.

The act shall be signed by all members of the commission. In case of disagreement with the decision of the commission or lack of a signature, a statement shall be attached to the act with a justification of the reasons for the disagreement or lack of a signature.

55. Bioethanol representing a radiation hazard must be disposed of in the manner prescribed by the legislation of the Republic of Kazakhstan.

9. Labelling requirements

56. Marking of bioethanol shall meet the requirements established by technical regulations "Requirements for Packaging, Marking, Labelling and Their Correct Application", as well as the requirements of this section.

57. The labelling of consumer packaging shall contain:

1) the name of bioethanol , purpose;

2) the name of this Technical Regulation;

3) the trademark of the manufacturer;

4) the net weight or volume;

5) the date - the month and year of manufacture of bioethanol ;

6) the batch number;

7) the cargo hazard classification code;

8) the inscription: "Flammable."

58. On each unit of a transport container with fuel, an inscription indelible with water and oil products, bioethanol shall be made using a stencil or stamp indicating;

1) the name of bioethanol ;

2) the trademark of the manufacturer;

3) the gross and net mass;

4) the date - month and year of manufacture of fuel;

5) the party number and;

6) the name of the Technical Regulations;

7) the cargo hazard classification code.

If the indicated inscription cannot be made to a transport container with fuel, then a label shall be attached to the container and a label with this inscription shall be glued, and on the container itself an indelible inscription shall be written with a stamp or stencil containing the name of bioethanol and the date of its manufacture.

59. Transport markings and handling signs and markings characterizing the transport hazard of the cargo shall be applied to the transport packaging.

10. Confirmation of compliance

60. Bioethanol shall be subject to mandatory certification.

61. The procedure and schemes for confirming the conformity of bioethanol are established by Decree of the Government of the Republic of Kazakhstan No. 90 dated February 4, 2008 "On Approval of the Technical Regulation “Compliance Confirmation Procedures".

11. Terms and conditions of enforcement

62. These Technical Regulations shall enter into force six months after the date of first official publication.

63. Documents in the field of conformity assessment issued before the entry into force of this Technical Regulation shall be considered valid until the expiration of their validity.

64. From the moment of enactment of this Technical Regulation, normative legal acts and normative and technical documentation in force on the territory of the Republic of Kazakhstan, until they are brought into conformity with this Technical Regulation, shall be applied to the extent that does not contradict this Technical Regulation.

65. Bioethanol released before the entry into force of these Technical Regulations shall be sold before the expiration date.

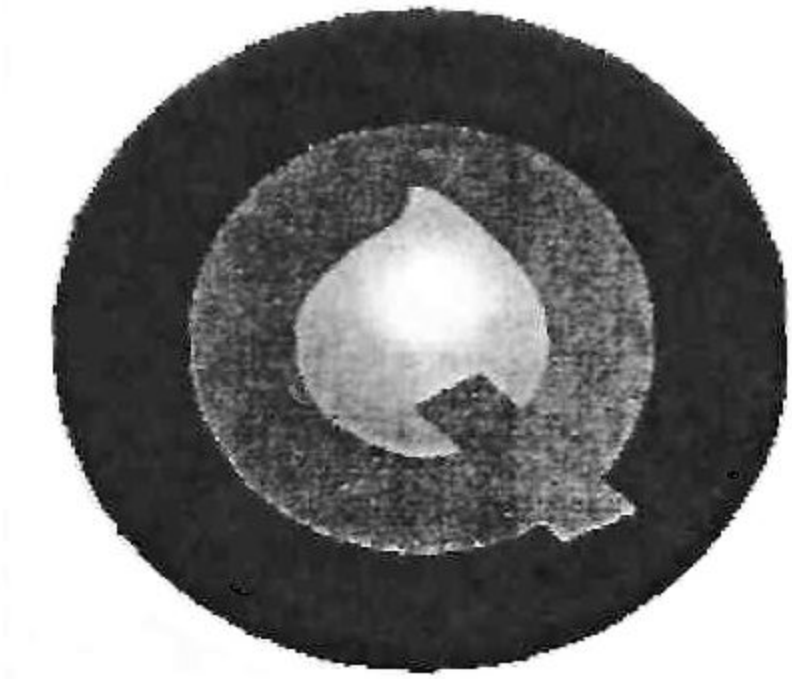
Annex 1
to the Technical Regulation
"Bioethanol Safety Requirements"

Physical and chemical properties of bioethanol

Table 1

Name of indicator	Indicator
Boiling point, not less than ^{about} C	78.8
Melting point, not less than ^{about} C	minus 117
Specific gravity at 20 ^{o} C, kg / dm ^{3}	not less than 0.79 and not more than 0.81
Solubility in water, mg / dm ^{3} at 20 ^{to} C	unlimited
Miscibility (ethyl alcohol-water), 20 ^{o} C	unlimited
Reactivity	dehydrated , oxidized, dehydrated
Flash point, not less	13.3 $^{of\ the}$ C closed cup 16 $^{\circ}$ C in an open crucible
Flash point, not less	18 ^{about} With
Auto-ignition temperature, not less	400 ^{o} C
Volume fraction of ethyl alcohol, %, not less	92.1
Volume fraction of methyl alcohol, %, no more	0.5
Volume fraction of water,%, no more	1
Mass fraction of free acids, mg / dm ^{3} , no more	50
Copper content , mg / kg, not more than	0.1
Mass fraction of sulfur,%, no more	0.003
Activity indicator of hydrogen ions, pH within	not less than 6.5 and not more than 9.0
Volume fraction of denaturing additives %, no more	not less than 1.0 and not more than 5.0
Mass concentration of resin washed solvent, mg / dm ^{3} (mg / 100 cm ^{3}) bioethanol , no more	50 (5)
Mass concentration of chlorine ions, mg / dm ^{3} , no more	32

Annex 2
to the Technical Regulation
"Bioethanol Safety Requirements"



Biofuel sign