Central administrative board of food industry development of the Ministry of Agriculture and Food of the USSR

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SOAP STOCK

Technical Specifications

Technical Specifications 10-04-02-80-91

(in substitution of
Technical Specifications of the Russian Soviet Federative Socialist Republic 564-74,
Technical Specifications 10.18 of the Ukrainian Soviet Socialist Republic 201-89,
Technical Specifications 18 of the Moldavian Soviet Socialist Republic 162-85,
Technical Specifications 18 of the Azerbaijan Soviet Socialist Republic 39-82,
Technical Specifications of the Uzbek Soviet Socialist Republic 38-85,
Republican Standard of the Tadzhik Soviet Socialist Republic 703-81)

1991

These technical specifications refer to soap stock, the by-product, which is generated through alkaline neutralization of fats and oils and which is not mixed with any other by-products and waste products.

Soap stock is intended for industrial processing for the purpose of generating fatty acids, soap and other products.

Designation when ordering: soap stock, technical specifications 10-04-02-80-91.

The reference document list to which there are references is given in the appendix No.6.

1. Kinds

1.1. Depending on a sort of neutralisable oils and fats, soap stocks are subdivided into the following kinds specified in tab. 1.

Table 1

Assortment name	Code of All-Russian Product Classifier
Soap stock from light vegetable oils Soap stock from cotton oil Soap stock from hydrogenated fat and animal fats	91 4671 1100 91 4672 1100 91 4673 1100

2. Technical requirements

2.1. Soap stock should meet the requirements of these technical specifications and be generated under the technological instructions approved in accordance with the established procedure.

2.2. Characteristics.

2.2.1. As for organoleptical parameters soap stock should meet the requirements specified in table 2.

Table 2

Parameter name	Characteristic		
	Soap stock from light oils	Soap stock from cotton oil	Soap stock from hydrogenated fat and animal fats
Color	From yellow to light brown with color shade of base oil	From brown to dark brown	From yellow to dark yellow with grayish shade
Consistence when the temperature is 20°C	Liquid or salvelike		
Smell	Specific, peculiar to soap stock generated from various oils and fats; the weak smell of products of decomposition of organic matters is allowed; the smell of mineral oil is not allowed		
Foreign solid impurities	absence	absence	absence

2.2.2. As for physicochemical parameters soap stock should meet the requirements specified in table 3.

Table 3

Parameter name	Norms		
	Soap stock from light oils	Soap stock from cotton oil	Soap stock from hydrogenated fat and animal fats
Mass fraction of common fat, %, not less	25,0	35,0	25,0
Mass fraction of fatty acids, %, not less	15,0	is not tested	15,0
Mass fraction of fatty acids and non-fatty substances, %, not less	is not tested	30,0	is not tested

Note:

- Fatty acids fixed in the form of sodium salts are meant by fatty acids in soap stocks from light oils, hydrogenated fats and animal fats.
- The sum of all fatty acids, non-fatty, non-saponifying and other substances extracted with ethyl ether is meant by fatty acids and non-fatty substances in soap stocks from cotton oil.
- Mass fraction of fatty acids and non-fatty substances is tested with manufacturing on the customer's request.
- Limits of possible variations of mass fraction of non-fatty substances and the procedure of their testing are given in the reference appendix 1.

2.2.3. It is not allowed:

- to add all kinds of catalyst fat; fat with discoloring earth, activated with coal; fat after sewage treatment; wastes when cleaning of shops to soap stock;
- to mix dark and light soap stocks.

Note: tests to find out the presence of foreign fatty products in soap stock are carried out according to reference appendices 2, 3, 4.

3. Acceptance procedures

3.1. Soap stock is shown to delivery by lots. The lot is any quantity of soap stock of one kind, made by one enterprise, in one tare, prepared for single delivery-acceptance and issued by one certificate of quality.

When soap stock is shipped in rail tank cars, the lot means every new tank car.

Lot volume is not less than 3 tons.

The soap stock sample is used in acceptance tests in amount of 0.05 % from the mass of shipped soap stock, but not less than 4 liters.

The certificate of quality should specify:

- the manufacturer’s name, its site and the trade mark;
- the product name;
- the mass of the lot;
- quality parameters according to paragraph 2.2.1. and 2.2.2. of these technical specifications;
- the number of the lot and the shipment date;
- the number of these technical specifications.

3.2. The quality certificate should be sent to the consumer not later than in two days after the soap stock shipment.

3.3. The consumer has a right to carry out the control check of soap stock shipped to him/her to verify the compliance with requirements of these technical specifications.

3.4. If there are unsatisfactory results regarding at least one of parameters, the test of the doubled sample from the same lot of soap stock is performed.

Results of retests are final and applied to the whole lot.

4. Test methods

4.1. To carry out the control check of the soap stock quality in order to verify the compliance with requirements of these technical specifications, rules of sampling listed below are applied.

4.2. Sampling.

4.2.1. While shipping and receiving soap stock in the liquid state in rail tank cars and tank trucks, the sample is taken from every truck by nipple boot or by intersection of jets (within equal intervals) in the process of the soap stock pumping-over.

For continuous sampling the nipple boot is positioned in the vertical part of the pipeline directly behind the pump to which the nipple neck is screwed providing a continuous jet when the boot is open completely. The diameter of bore of the neck is determined by the pump capacity which pumps over soap stock in order that the taken sample comprises about 0.05 % from mass of the shipped soap stock, but not less than 4 liters. The tank content is carefully mixed and the average sample per it is taken not less than 1 liter.

4.2.2. The taken sample is divided into five equal parts and each part is mixed in a pure dry glass jar with tightly fitted stopper. Three jars are sent to the laboratory for analyses (two of them are in the event of unsatisfactory results), the remained two are sealed up.

Corresponding labels are glued on jars with samples which are stored in a condenser. The label specifies:

- the manufacturer's name;
- the enterprise-addressee's name;
- the product name;
- the number of the lot and the generation date;
- the date of the sample collection;
- the post, surnames and signatures of people who take sampling.

One sealed up jar is stored at manufacturer's enterprise within a month in the event of evaluation disagreements of the product quality and the other intended for the consumer is send to him/her on demand.

4.2.3. If soap stock comes to the plant nonsolidified or the plant has the opportunity to warm it up in the tank by the method of hot fluid wash or indirect steam, the average sample of soap stock during the check of its quality of all parameters is taken while pumping over from the tank by the pump, according to the paragraph 4.2.1.

If the soap stock comes solid and there is no opportunity to warm it up by dry method, it is warmed up by direct steam. The quantity of the condensate input into soap stock at its warming up shall be considered through weighing. The average sample of warmed-up soap stock is taken by nipple boot or by jet intersection.

4.3. Color, consistence and smell are tested organoleptically.

4.4. Testing of foreign impurities

4.4.1. Apparatus

Laboratory centrifuge with number of revolutions from 5000 to 6000 per min $^{-1}$ according to the technical specifications 27-32-26-77-86.

Sand glass for 1 minute.

4.4.2. Test operation

Centrifugal test tube of the 10 cm³-capaciousness is filled with soap stock then placed in the centrifuge and centrifuged within 1 minute, after that solid particles isolated on the bottom of the test tube are observed.

4.5. Testing of mass fraction of common fat

4.5.1. Apparatus, reagents and materials

Laboratory scales in accordance with State Standard 24104-88 of the 2nd accuracy class with the maximum weighing limit of 200 g or other scales of the same accuracy class.

Laboratory drying cabinet with the heat regulator providing an error of temperature maintenance not more than 3°C.

Electric hot plate in accordance with State Standard 14919-83.

Water bath.

Condenser KhSh-1-2 (ХШ-1-2) in accordance with State Standard 25336-82 or another, similar to this one, which provides full-fledged stripping of solvent.

Funnels VD-1-500KhS (ВД-1-500ХС), VD-2-500KhS (ВД-2-500ХС) in accordance with State Standard 25336-82.

Funnel V-75-110 KhS (В-75-110 ХС) in accordance with State Standard 25336-82.

Flasks Kn-1-250 TKhS (Кн-1-250 ТХС), Kn-2-250 TKhS (Кн-2-250 ТХС) in accordance with State Standard 25336-82.

Ethyl ether according to the technical specifications 7506804-97-90 distilled at the temperature 34-36°C.

Sulfuric acid in accordance with State Standard 4204-77, the solution with mass fraction of 10 %.

Methyl orange water solution with mass fraction of 0.1 %.

Laboratory filter paper in accordance with State Standard 13026-76.

Distilled water in accordance with State Standard 6709-72.

4.5.2. Testing preparation

Before testing the sample of soap stock should be carefully mixed in a glass container in order to receive homogeneous consistence.

4.5.3. Test operation

4-5 g of soap stock are weighed and placed in a conical flask with result record up to the second decimal sign and 50-60 cm³ of hot water are added. Then the solution of 10%-sulfuric or hydrochloric acid is added to receive acid reaction under methyl orange. The flask content is heated up on boiling water bath to receive complete blooming of the isolated fatty acids and neutral fat, then it is cooled and transferred to the separating funnel in which 10 cm³ of ethyl ether have been poured beforehand. The flask is rinsed carefully 2-3 times with small portions (20 cm³) of ethyl ether which is merged to the same separating funnel, then the funnel content is mixed with light rotary movement and after the fat dissolution it is settled within 20-30 minutes.

The water solution is carefully placed in the second separating funnel and shaken up with 20 cm³ of ethyl ether.

After settling the water solution is merged in the flask in which soap stocks were decomposed. The ethereal extract is added to the basic ethereal solution in the first funnel and the water solution is again processed with ethyl ether in the separating funnel.

The operation of fat extraction from water layer is repeated to complete defatting (a drop of the ethereal extract does not show a yellow spot on the filter paper) after that the water layer is thrown off, and joint ethereal extracts in the first funnel are washed out with water to receive neutral reaction under methyl orange.

The washed out ethereal extracts are filtrated through the funnel with a filter and a fragment of hygroscopic fat-free cotton wool, enclosed in it, into the conical flask dried to the constant weight.

The funnel and the filter are carefully washed out with ether. The ethyl ether is distilled in a draft hood on the water bath when the temperature of bath is not above 80°C and the rest is dried in a drying cabinet to receive the constant weight at the temperature 75-80°C.

4.5.4. Analysis of results

Mass fraction of common fat in percentage (X) is calculated with the formula:

$$X = m1 * 100/m,$$

Where *m1* - mass of fat, g

m – mass of soap stock, g

The arithmetic average of two parallel tests is taken as final result.

Allowable discrepancy between two parallel tests should not exceed 0.5 %.

4.6. Testing of mass fraction of fatty acids in soap stocks of light oils, hydrogenated fats, animal fats

4.6.1. Apparatus and reagents

Water bath.

Flasks Kn-1-250 TKhS (Кн-1-250 ТХС), Kn-2-250 TKhS (Кн-2-250 ТХС) in accordance with State Standard 25336-82.

Mixture of ethyl ether according to the technical specifications 7506804-97-90 with technical ethyl alcohol (hydrolytic) in accordance with State Standard 17299-78 or technical rectified ethyl alcohol in accordance with State Standard 18300-87 in the proportion 2:1, neutralized under phenolphthalein.

Kalium hydroxide in accordance with State Standard 24363-80, (chemically pure; reagent grade) or natrium hydroxide in accordance with State Standard 4328-77 (chemically pure; reagent grade), the water solution with concentration of (KOH or NaOH) = 0.5 mole /dm³ (0.5 n).

Phenolphthalein according to the technical specifications 6-09-5300-87, the alcoholic solution with mass fraction of 1 %.

4.6.2. Test operation

Mixture of fatty acids and neutral fat, received while testing common fat under the paragraph 4.4. is dissolved while heating on the water bath in 50 cm ³ of neutralized mixture of ethyl ether with alcohol and 0,5 mole/dm³ (0.5 l) is titrated with the solution of kalium or natrium hydroxide in the presence of phenolphthalein to receive the pink coloring which is not disappearing within a minute.

4.6.3. Analysis of results

Mass fraction of fatty acids in soap stocks of light oils, hydrogenated fats, animal fats in percentage (X) is calculated with the formula:

$$X = V * H * 0,141/m * 100$$

Where *V* - volume of 0.5 mole/dm³ (0.5 n) of the solution of kalium or natrium hydroxide used for titration, cm³;

H - the correction to the titer of 0,5 mole/dm³ (0,5 n) of the solution of kalium or natrium hydroxide;

m - mass of soap stock, g;

0,141 - content of oleic acid corresponding to 1 ml of 0.5 mole/dm³ (0.5 l) of the solution of kalium or natrium hydroxide.

The arithmetic average of two parallel tests is taken as final result.

Discrepancy between two parallel tests should not exceed 0.5 %.

4.7. Testing of mass fraction of common fatty acids and non-fatty substances in soap stocks of cotton oils.

4.7.1. Appararus, reagents, materials

Laboratory scales in accordance with State Standard 24104-88, of the 2nd accuracy class with the maximum weighing limit of 200 g or other scales of the same accuracy class.

Laboratory drying cabinet with the heat regulator providing an error of temperature maintenance not more than 3°C.

Water bath.

Backflow condenser.

Funnels VD-1-500KhS (ВД-1-500ХС), VD-2-500KhS (ВД-2-500ХС) in accordance with State Standard 25336-82.

Funnel V-75-110 KhS (В-75-110 ХС) in accordance with State Standard 25336-82.

Flasks Kn-1-250 TKhS (Кн-1-250 ТХС), Kn-2-250 TKhS (Кн-2-250 ТХС) in accordance with State Standard 25336-82.

Ethyl ether according to the technical specifications 7506804-97-90 distilled at the temperature 34-36°C.

Kalium hydroxide in accordance with State Standard 24363-80, (chemically pure, or reagent grade), water solution with concentration of (KOH) = 0.5 mole /dm³ (0.5 n).

Sulfuric acid in accordance with State Standard 4204-77 (reagent grade) or hydrochloric acid in accordance with State Standard 3118-77 (reagent grade), the solution with mass fraction of 10 %.

Methyl orange water solution with mass fraction of 0.1 %.

Laboratory filter paper in accordance with State Standard 13026-76.

4.7.2. Test operation

4-5 g of soap stock are weighed and placed in a conical flask with result record up to the second decimal sign, 7 cm³ are filled with 0.5 mole/dm³ (0,5 n) of the alcoholic solution of kalium hydroxide and heated with the backflow condenser within 30 minutes on the boiling water bath; then alcohol is evaporated on the water bath dry, the rest is dissolved in distilled water while heating on the water bath, then the water solution of sulfuric or hydrochloric acid is added with mass fraction up to 10 % to receive acid reaction under methyl orange and the heating is continued to get complete blooming of fatty acids. After cooling the flask content is quantitatively transferred to the separating funnel, in which 10 cm³ of ethyl ether have been poured beforehand. The flask is rinsed carefully 2-3 times with small portions (20 cm³) of ethyl ether merging them to the separating funnel. After dissolution of fatty acids in ethyl ether there is settling within 30 minutes, the lower water layer is placed in other separating funnel and shaken up with 20 cm³ of ethyl alcohol. The water layer is settled, placed in the flask and the ethereal extract is added to the basic ethereal solution. The extraction operation of fatty acids from water layer is repeated to complete defatting (a drop of the ethereal extract does not show a yellow spot on the filter paper) after that the water layer is thrown off, and joint ethereal extracts are washed out with water to receive neutral reaction under methyl orange.

The washed out ethereal solution is filtrated through the funnel with a paper filter and a fragment of fat-free hygroscopic cotton wool, enclosed in it, into the flask dried to the constant weight.

The funnel and the filter are carefully washed out with ethyl ether. The ethyl ether is distilled on the water bath and the rest is dried at the temperature 75-80°C in a drying cabinet to receive the constant weight.

4.5.4. Analysis of results

Mass fraction of common fatty acids and non-fatty substances in percentage (X) is calculated with the formula:

$$X = m1 * 100/m,$$

Where *m1* - mass of fatty acids and non-fatty substances, g

m – mass of soap stock, g

The arithmetic average of two parallel tests is taken as final result.

Allowable discrepancy between two parallel tests should not exceed 0.5 %.

5. Transportation and storage

5.1. Soap stock is transported in rail tank cars with the bottom discharge in accordance with State Standard 10674-82, in truck tanks with tightly closed hatches and in other tanks, fit

for soap stock transportation according to cargo transportation rules for a corresponding type of transport.

5.2. Rail tank cars and truck tanks are examined. There should not be water, dirt, foreign matters in rail tank cars and truck tanks.

5.3. Soap stock before shipping to the consumer should be stored in tanks with caps and heating coils.

6. Manufacturer's warranties

6.1. Soap stock should be approved by Technical Control Department of the manufacturer.

6.2. The manufacturer guarantees conformity of soap stock to requirements of these technical specifications under the compliance of conditions of transportation and storage prescribed by the technical specifications.

Appendix 1

Reference

Limits of possible variation of mass fraction of non-fatty substances in common fat of soap stocks is from 2.0 to 9.0 %.

1. Testing of mass fraction of non-fatty substances in cotton soap stocks.

Apparatus, reagents, materials

Laboratory drying cabinet with the heat regulator providing an error of temperature maintenance not more than 3°C.

Water bath.

Backflow condenser.

Funnels VD-1-500KhS (ВД-1-500ХС), VD-2-500KhS (ВД-2-500ХС) in accordance with State Standard 25336-82.

Funnel V-75-110 KhS (В-75-110 ХС) in accordance with State Standard 25336-82.

Flasks Kn-1-250 TKhS (Кн-1-250 ТХС), Kn-2-250 TKhS (Кн-2-250 ТХС) in accordance with State Standard 25336-82.

Cylinders 1-50; 3-50 in accordance with State Standard 1770-74.

Condenser KhSh-1-2 (ХШ-1-2) in accordance with State Standard 25336-82 or another, similar to this one, which provides full-fledged stripping of solvent.

Neutrol ether according to the normative technical documentation (the fraction which begins to boil within the limits of 35-55°C).

Rectified ethyl alcohol in accordance with State Standard 5952-87 or technical hydrolytic ethyl alcohol in accordance with State Standard 17299-76.

Kalium hydroxide in accordance with State Standard 24363-80 (chemically pure or reagent grade), the alcoholic solution with concentration of (KOH) = 2 mole /dm³ (2n).

Sulfuric acid in accordance with State Standard 4204-77 (reagent grade) or hydrochloric acid in accordance with State Standard 3118-77 (reagent grade), the water solution with mass fraction of 10 %.

Methyl orange water solution with mass fraction of 0.1 %.

Laboratory filter paper in accordance with State Standard 13026-76.

Distilled water in accordance with State Standard 6709-72.

Test operation

Dried to constant weight of common fat, isolated while testing its mass fraction or the mixture of fatty acids and the non-fatty substances, received while testing their mass fraction are washed out within 3 hours with 30 cm³ 2 n of alcoholic solution KOH in a flask with the backflow condenser on the boiling water bath. After finishing the saponification the alcohol is distilled off on the boiling water bath and the received soap is dried in a drying cabinet at the

temperature 75-80°C within an hour, periodically soap balls are loosen with a glass rod. Dry saponified mass is dissolved while heating on the water bath in small amount of hot water and is decomposed with 10 % of sulfuric or hydrochloric acid. The acid is added to receive acid reaction under methyl orange. Heating proceeds to complete blooming of fatty acids. After cooling the flask content is quantitatively transferred to the separating funnel in which 10 cm³ of ethyl ether have been poured beforehand. The flask is rinsed carefully 2-3 times with small portions (20 cm³) of ethyl ether merging them to the separating funnel. After dissolution of fatty acids in ethyl ether there is settling within 30 minutes, the lower water layer is placed in other separating funnel and shaken up with 20 cm³ of ethyl alcohol. The water layer is thrown off, the ethereal extract is added to the basic ethereal solution and joint ethereal extracts are washed out with water to receive neutral reaction and are filtrated through the funnel with a paper filter and a fragment of fat-free hygroscopic cotton wool, enclosed in it, into the flask dried to the constant weight.

The funnel and the filter are carefully washed out with ethyl ether. The ethyl ether is distilled on the water bath and the rest is dried at the temperature 75-80°C in a drying cabinet to receive the constant weight.

Analysis of results

Mass fraction of non-fatty substances in percentage (X) is calculated with the formula:

While testing mass fraction of non-fatty substances of the fat isolated while testing its mass fraction, use the formula:

$$X = ((m1 - m2) * 100/m) - (B - B/1,044)$$

Where *m1* - mass fraction of total amount of fat, fatty acids and non-fatty substances, in g with respect to saponification;

m2 - mass fraction of fatty acids, in g after saponification;

m - soap stock batch weight, g;

B - mass fraction of neutral fat in soap stock, %;

1,044 - conversion rate.

While testing mass fraction of non-fatty substances of the mixture of fatty acids and non-fatty substances received while testing their mass fraction, use the formula:

$$X = m1 - m2/m * 100$$

Where *m1* - mass fraction of total amount of fatty acids and non-fatty substances, in g before saponification;

m2 - mass fraction of fatty acids, in g after saponification;

m - soap stock batch weight.

Appendix 2

Reference

1. Qualitative testing of soap quantity in soap stocks.

Apparatus and reagents

Laboratory scales in accordance with State Standard 24104-88, of the 2nd accuracy class with the maximum weighing limit of 200 g or other scales of the same accuracy class.

Electric hot plate in accordance with State Standard 14919-83.

Flasks Kn-1-250 TKhS (Кн-1-250 ТХС), Kn-2-250 TKhS (Кн-2-250 ТХС) in accordance with State Standard 25336-82.

Cylinders 1-50; 3-50 in accordance with State Standard 1770-74.

Phenolphthalein alcoholic solution with mass fraction of 1 %.

Test operation

50 cm³ of distilled water with several drops of phenolphthalein is boiled beforehand in a conical flask. Thus the water should remain uncolored (if the water has pink coloring, it should

be neutralized with the solution of sulfuric acid with (H2SO4) = 0.1 mole/dm³ or hydrochloric acid with (HCE) = 0.1 mole/dm³ up to coloring loss).

1-3 g of the tested soap stock is added in a flask and boiled within 5-10 minutes. When the boiling has been finished, the flask is cooled to room temperature. Pink coloring testifies to soap presence. If there is no soap, the solution in the flask remains uncolored. It testifies to presence of others fatty products instead of soap stock in the sample.

Appendix 3

Reference

1. Measurement of soap stock's pH.

Apparatus and reagents

Laboratory pH instrument with the scale range from 0 to 14 units of pH and the graduation scale mark of 0.01 or 0.05 units of pH.

Glass electrode ESl-13-07 (ЭСл-13-07).

Silver-chloride electrodes EVL Sh1 (ЭВЛ Ш1) or EVL Sh3 (ЭВЛ Ш3).

Titrants of pH: 9.18 and 4.01 units of pH in accordance with State Standard 8.

Laboratory scales in accordance with State Standard 24104-88, of the 2nd accuracy class with the maximum weighing limit of 200 g or other scales of the same accuracy class.

Laboratory thermometer with the graduation scale mark 0.5°C which allows taking measurements within the range 0-50°C.

Chemical beakers V-1-100 (B-1-100), V-2-100 (B-2-100) in accordance with State Standard 25366-82.

Distilled water in accordance with State Standard 6709-72, just thoroughly boiled with pH 6.2-7.2 at 20°C.

Testing preparation

The general preparation of pH instrument and electrodes for work is made according to the procedure stated in the passport of the device with the obligatory maintenance of direct voltage of the networks in input of the device and of the environment temperature 20-25°C.

Test operation

The solution of the tested soap stock with mass fraction of 1 % is prepared in terms of mass fraction of common fat in distilled water. The prepared solution is transferred to the chemical beaker (the solution temperature is 20±0.5°C). The electrodes are placed in the solution washed off with distilled water beforehand and rinsed with the tested solution and then pH is measured.

Analysis of results

The arithmetic average results of two parallel tests are taken as final result of the testing.

Allowable discrepancy between two parallel tests should not exceed 0.4 pH.

If pH is not less than 6.5, the tested sample is considered to be soap stock. If there is lower pH, it may be oil sludge or other fatty wastes with acid reaction.

Appendix 4

Reference

2. Testing of emulsion stability of the tested sample

Apparatus and reagents

Laboratory scales in accordance with State Standard 24104-88 of the 2nd accuracy class with the maximum weighing limit of 200 g or other scales of the same accuracy class.

Flasks Kn-1-250 TKhS (Кн-1-250 ТХС), Kn-2-250 TKhS (Кн-2-250 ТХС) in accordance with State Standard 25336-82.

Cylinders 1-50; 3-50 in accordance with State Standard 1770-74.

Distilled water in accordance with State Standard 6709-72.

Test operation

4-5 g of the tested sample are weighed and placed in a conical flask and 50 cm³ of hot distilled water are added to receive complete dissolution.

Formation of the homogeneous emulsion of the whole solution without fatty layer on the surface testifies to absence of oil sludge or other fatty wastes in soap stock.

Appendix 5

List of the normative technical documentation to which there are references in the text of Technical Specifications

State Standard 8,135-74 State System for Ensuring Uniform Measurement, pH instrumentation. Titrants for preparation of standard buffer solutions of the 2nd grade.

State Standard 3118-77 Hydrochloric acid. Technical specifications.

State Standard 1770-74 Laboratory galas measure. Cylinders, measuring tubes, flasks, test tubes. Technical specifications.

State Standard 4204-77 Sulfuric acid. Technical specifications.

State Standard 4328-77 Natrium hydroxide. Technical specifications.

State Standard of 6709-72 Distilled water. Technical specifications.

State Standard 10674-82 Railroad tank cars of the main-line railways of the track 1520 mm. General technical specifications.

State Standard 12026-76 Laboratory filter paper.

State Standard 14919-83 Electric hot plate.

State Standard 17299-78 Ethyl technical alcohol. Technical specifications.

State Standard 18300-87 Ethyl rectified alcohol. Technical specifications.

State Standard 24104-88 Laboratory scales for general-purpose and standard. General technical specifications.

State Standard 24363-80 Kalium hydroxide. Technical specifications.

State Standard 25336-82 Laboratory galas measure and equipment. Types, key parameters and sizes.

Technical specifications 27-32-26-77-86 Centrifuges for testing fat content in milk and milk food. Technical specifications.

Technical specifications 7506804-97-90 Ethyl technical ether. Technical specifications.

* Cargo Transportation Rule of the Ministry of Taxation of the USSR, publishing house "Transport", Moscow, 1983г.

* Cargo Transportation Rule by Motor transport, publishing house "Transport", Moscow, 1984г.