

MERCOSUR/GMC/RES. No. 41/15

**MERCOSUR TECHNICAL REGULATION ON CELLULOSIC MATERIALS FOR
COOKING AND HOT FILTRATION
(REPEAL OF GMC RESOLUTION No. 47/98)**

HAVING REGARD TO: The Treaty of Asunción, the Protocol of Ouro Preto, and Resolution Nos. 38/98, 47/98 and 56/02 of the Common Market Group (GMC).

WHEREAS:

The harmonization of Technical Regulations tends to eliminate the obstacles to trade generated by the various national regulations in force, pursuant to the provisions in the Treaty of Asunción.

That the State Parties, owing to the advances on that subject, considered it necessary to update the “MERCOSUR Technical Regulation on filter papers for cooking and hot filtration (GMC Resolution No. 47/98).”

**THE COMMON MARKET GROUP
RESOLVES:**

Art. 1. To approve the “MERCOSUR Technical Regulations on Cellulosic Materials for Cooking and Hot Filtration,” which is included as an Appendix and is part of this Resolution.

Art. 2. The State Parties shall indicate national entities capable of implementing this Resolution within the purview of the SGT [Sub Working Group] No. 3.

Art. 3. This Resolution shall be applied in the territory of the State Parties, to the trade among them, and to the imports from outside the zone.

Art. 4. Repeal GMC Resolution No. 47/98.

Art. 5. This Resolution must be included in the State Parties' legal systems by March 31, 2016.

XCIX GMC - Asunción, September 23, 2015.

APPENDIX

MERCOSUR TECHNICAL REGULATION ON CELLULOSIC MATERIALS FOR COOKING AND HOT FILTRATION

1. SCOPE

1.1. This Technical Regulation is applied to papers for cooking and hot filtration and to cellulosic filtering materials intended to be in contact with aqueous foods. Filtering materials are understood to be cellulosic materials with a weight equal to or greater than 500 g/m².

1.2. Substances used for the manufacture of raw materials or for the formulation of active ingredients, listed in item 3 of this Regulation, must be used according to the principles defined in item 2.4 of the General Provisions of this Regulation.

1.2.1. Only the substances listed in item 3.3.1 of this Regulation may be used as antimicrobial substances.

2. GENERAL PROVISIONS

2.1. Cellulosic materials, packaging, and equipment covered under this Technical Regulation must be manufactured according to Good Manufacturing Practices and be compatible with use for direct contact with food.

2.2. Only substances included in the Positive List of Components appearing in item 3 of this Regulation may be used for the manufacture of papers for cooking and hot filtration and of cellulosic filtering materials. The indicated restrictions must be observed under all circumstances.

2.3. The use of food additives authorized by the MERCOSUR Technical Regulations for foods, not mentioned in this list, is permitted, provided that the following are observed:

a) The set restrictions for their use in foods;

b) The amount of the additive present in the food in addition to the amount that may potentially migrate from the packaging may not exceed the limits established for each food.

2.4. Cellulosic materials, packaging, and equipment, in conditions prescribed for use, must not transfer substances that pose a risk to human health to the foods. If there is any migration of substances, these substances must not bring about any unacceptable changes in the composition or the sensory characteristics of foods.

2.5. The limits of composition and specific migration defined in this Technical Regulation refers to cellulosic materials intended for cooking and hot filtration, hereinafter called the finished product.

2.6. If not specified otherwise, the limits expressed in percentage (%) refer to the mass-to-mass ratio (m/m) in the dry finished product.

2.6.1. If the indicated values reference the finished product, it is considered the dry finished product.

2.6.2. When the restriction references the extract of the finished product, it must be understood to be the extract prepared according to the procedure mentioned in item 2.8 of this Technical Regulation.

2.7. The limits of migration and composition for processing aids that may be used with more than one function are not cumulative. When the processing aid may be used with more than one function, the maximum allowable value must be the greater of the established limits.

2.8. The hot water extract for verification of the restrictions established in this Regulation must be obtained according to the procedure described in the standard *BS EN 647: Paper and board intended to come into contact with foodstuffs - Preparation of hot water extract*.

2.9. The total dry residue of the hot water extraction must not exceed 10 mg/dm² for papers and 10 mg/g for filtering materials. The total nitrogen content of this extract (determined by Kjeldahl method) must not exceed 0.1 mg/dm² of the finished product, which must be determined in samples manufactured at least 8 days prior.

2.10. The procedures included in the "MERCOSUR Technical Regulation on Food-Contact Cellulosic Materials, Packaging, and Equipment" must be used to verify compliance with the restrictions established in this Regulation.

2.10.1. The specific contact conditions established in Resolution AP-(2002)-1 must be used to verify compliance with the restrictions established in this Regulation for filtering materials.

2.11. The materials covered by this Regulation must not transfer antimicrobial constituents used in the paper manufacturing process to the foods. Determination method: *BS EN 1104: Paper and board intended to come into contact with foodstuffs - Determination of transfer of antimicrobial constituents*.

2.12. The "Positive List of Components" of this Technical Regulation may be modified in the MERCOSUR market in order to include or exclude substances and to modify limits and other restrictions. To that end, the following references are taken into account: Food and Drug Administration (FDA) of the United States, recommendations of the *Bundesinstitut für Risikobewertung* [Federal Institute for Risk Assessment] (BfR) and of the Council of Europe, European Union legislation, and the *Codex Alimentarius*.

3. POSITIVE LIST OF COMPONENTS

3.1. General Raw Materials

3.1.1. New natural and synthetic fibers based on cellulose and cellulose derivatives

3.1.2. New synthetic fibers made of:

- a) plasticizer-free copolymers of vinyl chloride and vinyl acetate
- b) polyethylene

- c) polypropylene
- d) polyester

Synthetic fibers must comply with the restrictions established in the MERCOSUR Technical Regulation on The Positive List of Monomers, Other Starting Substances, and Polymers Authorized for the Manufacture of Food-Contact Plastic Packaging and Equipment.

3.2. Processing Aid Raw Materials

3.2.1. Silicon dioxide [CAS 7631-86-9]

3.2.2. Mixture of aluminum silicates [CAS 1327-36-2], calcium [CAS 1344-95-2], and magnesium [CAS 1343-88-0], including kaolin [CAS 1322-58-7] and talcum (free from asbestos fibers)

3.2.3. Calcium sulfate [CAS 10101-41-4]

3.2.4. Titanium dioxide [CAS 1317-80-2]

3.2.5. Calcium carbonate [CAS 471-34-1] and magnesium carbonate [CAS 546-93-0]

3.2.6. Aluminum oxide [CAS 1344-28-1]

3.2.7. Aluminum chlorohydrate [CAS 1327-41-9]

3.2.8. Activated carbon [CAS 7440-44-0]. These substances must meet the specifications for their use in food manufacturing.

3.2.9. Tetrasodium iminodisuccinate [CAS 144538-83-0], maximum 0.17% based on dry fiber

3.3. Processing Aid Substances

3.3.1. Antimicrobial agents

3.3.1.1. Enzymatic agents: Fructose polysaccharide (levan) hydrolase, 12.5 mg of dry substance per kg of paper. It must not contain more than 1 unit of levanase activity per gram of paper.

3.3.1.2. Active antimicrobial constituents:

a) Chlorine dioxide [CAS 10049-04-4]

b) Sodium chlorite [CAS 7758-19-2]

c) Hydrogen peroxide [CAS 7722-84-1]

d) Sodium peroxide [CAS 1313-60-6]

e) Sodium hydrosulfite (sodium dithionite) [CAS 7775-14-6]

f) Hypobromite solution stabilized with alkali, maximum 0.07% based on the dry fiber. The solution used must contain no more than 10% of sodium hypobromite and 12% sodium sulfamate.

g) 1,2-benzisothiazol-3-one (method detection limit 10µg/dm²)

h) Mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one in a 3:1 ratio, maximum 4 mg/kg (method detection limit: 0.5 µg/dm² for the sum of the isothiazolinones mentioned)

i) Ammonium bromide/sodium hypochlorite adduct, maximum 0.02% (active substance determined as chlorine) based on the dry fiber

- j) 2-bromo-2-nitropropane-1,3-diol, maximum 0.003% based on the dry fiber
- k) 2-methyl-4-isothiazolin-3-one [CAS 2682-20-4]. There must not be more than 1µg/dm² of this substance detected in the extract of the finished product.

The substances mentioned in subitems g) and k) of item 3.3.1.2 must not be detected in the hot aqueous extract of the finished product.

3.3.2. Refining agents

3.3.2.1. Polycrylamide [CAS 9003-05-8], provided that it does not contain more than 0.1% of the acrylamide monomer [CAS 79-06-1]. Maximum limit 0.015% in the finished product.

3.3.2.2. Copolymer of acrylamide and 2-(N,N,N-trimethylammonium)ethyl methacrylate, provided that it contains no more than 0.1% of acrylamide monomer and no more than 0.5% 2-(N,N,N-trimethylammonium)ethyl methacrylate. Maximum limit 0.1% in the finished product.

3.3.2.3. Copolymer of acrylamide and 2-(N,N,N-trimethylammonium)ethyl acrylate, provided that it contains no more than 0.1% of acrylamide monomer and no more than 0.5% 2-(N,N,N-trimethylammonium)ethyl acrylate. Maximum limit 0.1% in the finished product.

3.3.2.4. Cross-linked cationic polyalkylamines listed below, which can be used in total up to 4% based on the dry fiber of the finished product. Epichlorohydrin (detection limit: 1 mg/kg) and its hydrolysis derivatives, 1,3-dichloro-2-propanol and 3-chloro-1,2-propanediol must not be detected in the aqueous extract of the finished product (detection limits: 2 µg/l and 12 µg/l, respectively). Ethyleneimine must not be detected in the resin (detection limit: 0.1 mg/kg).

a) Polyamine-epichlorohydrin resin, synthesized from epichlorohydrin [CAS 106-89-8] and diaminopropyl methylamine [CAS 105-83-9]

b) Polyamide-epichlorohydrin resin, synthesized from epichlorohydrin [CAS 106-89-8], adipic acid [CAS 124-04-9], caprolactam [CAS 105-60-2], diethylenetriamine [CAS 111-40-0], and/or ethylenediamine [CAS 107-15-3]

c) Polyamide-epichlorohydrin resin, synthesized from adipic acid [CAS 124-04-9], diethylenetriamine [CAS 111-40-0] and epichlorohydrin [CAS 106-89-8], or from a mixture of epichlorohydrin and ammonium hydroxide [CAS 1336-21-6]

d) Polyamide-polyamine-epichlorohydrin resin, synthesized from epichlorohydrin [CAS 106-89-8], dimethyl adipate [CAS 627-93-0], and diethylenetriamine [CAS 111-40-0]

e) Polyamide-epichlorohydrin resin, synthesized from epichlorohydrin [CAS 106-89-8], diethylenetriamine [CAS 111-40-0], adipic acid [CAS 124-04-9], ethyleneimine [CAS 151-56-4]. Maximum limit 0.3% in the finished product

f) Polyamide-epichlorohydrin resin, synthesized from adipic acid [CAS 124-04-9], diethylenetriamine [CAS 111-40-0] and a mixture of epichlorohydrin and dimethylamine. Maximum limit 0.1% in the finished product.

g) Polyamide-epichlorohydrin resin, synthesized from diethylenetriamine [CAS 111-40-0], adipic acid [CAS 124-04-9], glutaric acid [CAS 110-94-1], succinic acid

[CAS 110-15-6], and epichlorohydrin [CAS 106-89-8]. Maximum limit 4.0% in the finished product.

h) Polyamide-epichlorohydrin resin, synthesized from diethylenetriamine [CAS 111-40-0], triethylenetetramine, adipic acid [CAS 124-04-9], and epichlorohydrin [CAS 106-89-8]. Maximum limit 4.0% in the finished product.

3.3.2.5. Copolymer of vinylformamide and vinylamine. Maximum limit 1% in the finished product.

3.3.2.6. Poly(ethyleneimine), modified with ethylene glycol and epichlorohydrin. Maximum limit 0.2% in the finished product. Epichlorohydrin (detection limit: 1 mg/kg) and its hydrolysis derivatives, 1,3-dichloro-2-propanol and 3-chloro-1,2-propanediol must not be detected in the aqueous extract of the finished product (detection limits: 2 µg/l and 12 µg/l, respectively). Ethyleneimine must not be detected in the resin (detection limit 0.1 mg/kg).

3.3.2.7. Poly(hexamethylene-1,6-diisocyanate), modified with ethylene glycol methyl ether. Maximum limit 1.2% in the finished product.

3.3.2.8. Poly(hexamethylene-1,6-diisocyanate), modified with ethylene glycol methyl ether and N,N-dimethylaminoethanol. Maximum limit 1.2% in the finished product.

3.3.2.9. Galactomannans. Maximum limit 0.5% in the finished product.

3.3.2.10. Styrene, butyl acrylate, and methyl methacrylate copolymer. Maximum limit 5.0% in the finished product.

3.3.2.11. Acrylamide and acrylic acid copolymer cross-linked with N-methylene-bis(acrylamide). Maximum limit 1.0% in the finished product.

3.3.2.12. Melamine-formaldehyde resin. Maximum limit 3.0% in the finished product. There must not be more than 1 mg of formaldehyde per dm² detected in the extract of the finished product.

3.3.2.13. Poly(ethyleneimine). Maximum limit 0.05% in the finished product.

3.3.2.14. Copolymer of acrylamide, 2-[(methacryloyloxy)ethyl]trimethylammonium chloride, N,N'-methylene-bis-acrylamide, and itaconic acid. Maximum limit 1.0% of the finished product, based on the dry fiber.

3.3.2.15. Copolymer of acrylamide, 2-[(methacryloyloxy)ethyl]trimethylammonium chloride, N,N'-methylene-bis-acrylamide, itaconic acid, and glyoxal. Maximum limit 1.0% in the finished product, based on the dry fiber.

3.3.2.16. Copolymer of hexamethylenediamine and epichlorohydrin. Maximum limit 2.0% in the finished product.

3.3.2.17. Copolymer of diethylenetriamine, adipic acid, 2-aminoethanol, and epichlorohydrin. Maximum limit 0.1% in the finished product, based on the dry fiber. Epichlorohydrin (detection limit: 1 mg/kg) and its hydrolysis derivatives, 1,3-dichloro-2-propanol and 3-chloro-1,2-propanediol must not be detected in the aqueous extract of the finished product (detection limits: 2 µg/l and 12 µg/l, respectively). Ethyleneimine must not be detected in the resin (detection limit 0.1 mg/kg).

3.3.2.18. Copolymer of vinylformamide and acrylic acid. Maximum limit 1.0% in the finished product, based on the dry fiber.

3.3.2.19. Copolymer of vinylformamide, vinylamine, and acrylic acid. Maximum limit 1.0% in the finished product, based on the dry fiber.

3.3.2.20. Sodium hydroxide [CAS 13101-73-2]. The amount of the substance must not exceed the amount necessary to obtain the desired technical effect.

3.3.2.21. Ester of phosphoric acid and galactomannan. Maximum limit 0.25% based on the dry fiber.

3.4. Preservatives

3.4.1. Sorbic acid. It must be used only in the amount necessary to protect the material from degradation and deterioration.

3.5. Drainage Agents

3.5.1. Lignosulfonic acid

3.5.2. Sodium silicate, stabilized with 0.42% of sodium tetraborate, based on the formulation.

3.6. Dispersing Agents

3.6.1. Calcium stearate. Maximum limit 0.4% in the finished product.

3.6.2. Dioctyl sulfosuccinate sodium salt [CAS 577-11-7].

3.7. Defoamers

3.7.1. N,N'-ethylene-bis-stearamide.

3.7.2. Aliphatic alcohols (C8-C26), in esterified form. Up to 2% paraffin and up to 2% alkylaryl oxyethylates and their esters with sulfuric acid (as emulsifiers) may be added in an aqueous solution to 20-25% of the defoamer. The liquid paraffin must comply with the requirements established in the MERCOSUR Technical Regulation on Food-Contact Paraffins. Maximum limit 0.1% based on the dry fiber.

3.7.3. Magnesium chloride [CAS 7786-30-3].

3.7.4. Polypropylene glycol (minimum molecular weight 1,000).

3.7.5. Fatty acids obtained from oils and fats, animal and vegetable, and aluminum, ammonium, calcium, magnesium, potassium, sodium, and zinc salts.

3.7.6. Triglycerides and marine oils, as well as fatty acids and alcohols derived from these, which react with one or more of the following compounds, with or without dehydration, to form the substances belonging to the chemical classes indicated in parentheses:

a) Ethylene oxide (ester and ether)

b) Propylene oxide (ester)

c) Polyoxyethylene, molecular weight 200, 300, 400, 600, 700, 1,000, 1,540, 1,580, 1,760, 4,600 (ester)

d) Polyoxypropylene, molecular weight 200 to 2,000 (ester)

e) Propylene glycol (ester)

f) Ethylene glycol (ester)

g) Butanol (ester)

- h) Isobutanol (ester)
- i) Isopropanol (ester)
- j) Methanol (ester)
- k) Pentaerythritol (ester)
- l) Propanol (ester)
- m) Sorbitol (ester)

3.7.7. Products of reaction of dimethyl and methyl hydrogen siloxanes and silicones with polyethylene glycol-polypropylene glycol monoallyl ethers. The amount of the defoamer added during the manufacturing process must not exceed the amount necessary to obtain the desired technical effect.

3.7.8. 2,4,7,9-tetramethyl-5-decyne-4,7-diol

3.7.9. 3,6-dimethyl-4-octyne-3,6-diol

3.7.10. 2,5,8,11-tetramethyl-6-dodecyne-5,8-diol

Note: The sum of the migration of the substances provided for items 3.7.8., 3.7.9., and 3.7.10., from the finished product to the food, should not exceed 0.05 mg/kg.

3.8. Raw Materials and Special Processing Aids for Cooking Bags

3.8.1. Parchmentizing Products: sulfuric acid [CAS 7664-93-9].

3.8.2. Neutralizing and Precipitating Agents:

- a) Ammonium hydroxide [CAS 1336-21-6]
- b) Sodium carbonate [CAS 497-19-8]
- c) Sodium bicarbonate [CAS 144-55-8]
- d) Aluminum sulfate [CAS 10043-01-3]
- e) Sodium aluminate [CAS 1302-42-7]
- f) Carbon dioxide [CAS 24-38-9]

3.8.3. Agglutinating Agents

Dispersion of vinyl chloride and methyl methacrylate copolymers. These must be included in the MERCOSUR Technical Regulation on The Positive List of Monomers, Other Starting Substances, and Polymers Authorized for the Manufacture of Food-Contact Plastic Packaging and Equipment. Maximum limit 15% of the dry mass.

3.9. Raw Materials and Special Production Aids for Tea Bags (Sachets).

3.9.1. Surface refining and coating agents

The substances listed below must comply with the general requirements and purity requirements set forth for their use as food additives:

- a) Carboxymethylcellulose sodium. Minimum purity 98% [CAS 9004-32-4]
- b) Methylcellulose [CAS 9004-67-5]

c) Hydroxyethyl cellulose [CAS 9004-62-0]

d) Xanthan gum

3.10. Raw materials and special processing aids for hot filter papers

3.10.1 Special Fibrous Materials: Inorganic fibers based on aluminum oxide

3.10.2. Precipitating Agents

a) Aluminum sulfate [CAS 10043-01-3]

b) Sodium aluminate [CAS 1302-42-7]