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(iii) A new drug application for the product has been approved.

(d) An OTC drug product that contains: (1) An active ingredient limited, on or after May 11, 1972, to prescription use for the indication and route of administration under consideration by an OTC advisory review panel, and not thereafter exempted from such limitation pursuant to §310.200 of this chapter, or

(2) An active ingredient at a dosage level higher than that available in any OTC drug product on December 4, 1975, which ingredient and/or dosage level is classified by the panel in category III (conditions subject to §330.10(a)(6)(iii)), may be marketed only after:

(i) The Center for Drug Evaluation and Research or the Commissioner tentatively determines that the ingredient is generally recognized as safe and effective, and the Commissioner states by notice in the FEDERAL REGISTER (separately or as part of another document) that marketing under specified conditions will be permitted;

(ii) The ingredient is determined by the Commissioner to be generally recognized as safe and effective and is included in the appropriate published OTC drug final monograph; or

(iii) A new drug application for the product has been approved.


PART 331—ANTACID PRODUCTS FOR OVER-THE-COUNTER (OTC) HUMAN USE

Subpart A—General Provisions

Sec. 331.1 Scope.

Subpart B—Active Ingredients

§ 331.10 Antacid active ingredients.

(a) The active antacid ingredients of the product consist of one or more of the ingredients permitted in §331.11 within any maximum daily dosage limit established, each ingredient is included at a level that contributes at least 25 percent of the total acid neutralizing capacity of the product, and the finished product contains at least 5 mEq. of acid neutralizing capacity and results in a pH of 3.5 or greater at the end of the initial 10-minute period as measured by the method established in §331.25. The method established in §331.21 shall be used to determine the percent contribution of each antacid active ingredient.

(b) This section does not apply to an antacid ingredient specifically added as a corrective to prevent a laxative or constipating effect.

EFFECTIVE DATE NOTE: At 61 FR 4823, Feb. 8, 1996, in §331.10, paragraph (a) was revised, effective February 10, 1997. For the convenience of the reader, the superseded text is set forth below.
§ 331.10 Antacid active ingredients.

(a) The active antacid ingredients of the product consist of one or more of the ingredients permitted in § 331.11 within any maximum daily dosage limit established, each ingredient is included at a level that contributes at least 25 percent of the total acid neutralizing capacity of the product, and the finished product contains at least 5 meq of acid neutralizing capacity as measured by the procedure provided in the United States Pharmacopeia 23/National Formulary 18. The method established in § 331.20 shall be used to determine the percent contribution of each antacid active ingredient.

§ 331.11 Listing of specific active ingredients.

(a) Aluminum-containing active ingredients:

(1) Basic aluminum carbonate gel.

(2) Aluminum hydroxide (or as aluminum hydroxide-hexitol stabilized polymer, aluminum hydroxide-magnesium carbonate codried gel, aluminum hydroxide-magnesium trisilicate codried gel, aluminum-hydroxide-sucrose powder hydrated).

(3) Dihydroxyaluminum aminoacetate and dihydroxyaluminum aminoacetic acid.

(4) Aluminum phosphate gel when used as part of an antacid combination product and contributing at least 25 percent of the total acid neutralizing capacity; maximum daily dosage limit is 8 grams.

(5) Dihydroxyaluminum sodium carbonate.

(b) Bicarbonate-containing active ingredients: Bicarbonate ion; maximum daily dosage limit 200 mEq. for persons up to 60 years old and 100 mEq. for persons 60 years or older.

(c) Bismuth-containing active ingredients:

(1) Bismuth aluminate.

(2) Bismuth carbonate.

(3) Bismuth subcarbonate.

(4) Bismuth subgallate.

(5) Bismuth subnitrate.

(d) Calcium-containing active ingredients: Calcium, as carbonate or phosphate; maximum daily dosage limit 160 mEq. calcium (e.g., 8 grams calcium carbonate).

(e) Citrate-containing active ingredients: Citrate ion, as citric acid or salt; maximum daily dosage limit 8 grams.

(f) Glycine (aminoacetic acid).

(g) Magnesium-containing active ingredients:

(1) Hydrate magnesium aluminate activated sulfate.

(2) Magaldrate.

(3) Magnesium aluminosilicates.

(4) Magnesium carbonate.

(5) Magnesium glycinate.

(6) Magnesium hydroxide.

(7) Magnesium oxide.

(8) Magnesium trisilicate.

(h) Milk solids, dried.

(i) Phosphate-containing active ingredients:

(1) Aluminum phosphate; maximum daily dosage limit 8 grams.

(2) Mono or dibasic calcium salt; maximum daily dosage limit 2 grams.

(3) Tricalcium phosphate; maximum daily dosage limit 24 grams.

(j) Potassium-containing active ingredients:

(1) Potassium bicarbonate (or carbonate when used as a component of an effervescent preparation); maximum daily dosage limit 200 mEq. of bicarbonate ion for persons up to 60 years old and 100 mEq. of bicarbonate ion for persons 60 years or older.

(2) Sodium potassium tartrate.

(k) Sodium-containing active ingredients:

(1) Sodium bicarbonate (or carbonate when used as a component of an effervescent preparation); maximum daily dosage limit 200 mEq. of sodium for persons up to 60 years old and 100 mEq. of bicarbonate ion for persons 60 years or older. That part of the warning required by § 330.1(g), which states, “Keep this and all drugs out of the reach of children” is not required on a product which contains only sodium bicarbonate powder and which is intended primarily for other than drug uses.

(2) Sodium potassium tartrate.

(l) Silicates:

(1) Magnesium aluminosilicates.

(2) Magnesium trisilicate.
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(m) Tartrate-containing active ingredients. Tartaric acid or its salts; maximum daily dosage limit 200 mEq. (15 grams) of tartrate.


§ 331.15 Combination with nonantacid active ingredients.
(a) An antacid may contain any generally recognized as safe and effective nonantacid laxative ingredient to correct for constipation caused by the antacid. No labeling claim of the laxative effect may be used for such a product.
(b) An antacid may contain any generally recognized as safe and effective analgesic ingredient(s), if it is indicated for use solely for the concurrent symptoms involved, e.g., headache and acid indigestion, and is marketed in a form intended for ingestion as a solution.
(c) An antacid may contain any generally recognized as safe and effective antiflatulent ingredient if it is indicated for use solely for the concurrent symptoms of gas associated with heartburn, sour stomach or acid indigestion.

Subpart C—Testing Procedures

§ 331.20 Apparatus and reagents.
(a) pH meter, equipped with glass and saturated calomel electrodes.
(b) Magnetic stirrer.
(c) Magnetic stirring bars (about 40 mm. long and 10 mm. in diameter).
(d) 50 ml. buret.
(e) Buret stand.
(f) 100 ml. beakers.
(g) 250 ml. beakers.
(h) 10 ml., 20 ml. and 30 ml. pipets calibrated to deliver.
(i) Tablet comminuting device.
(j) A number 20 and 100 U.S. standard mesh sieve.
(k) Tablet disintegration apparatus.
(l) 0.1 N, 0.5 N and 1.0 N hydrochloric acid.
(m) 0.5 N sodium hydroxide.
(n) Standard pH 4.0 buffer solution (0.05 M potassium hydrogen phthalate).
(o) 95 percent ethanol.
(p) Purified Water U.S.P.

[39 FR 19874, June 4, 1974, as amended at 40 FR 4823, Feb. 8, 1976, § 331.20 was removed, effective February 10, 1997.]

§ 331.21 Determination of percent contribution of active ingredients.
To determine the percent contribution of an antacid active ingredient, place an accurately weighed amount of the antacid active ingredient equal to the amount present in a unit dose of the product into a 250 ml. beaker. If wetting is desired, add not more than 5 ml. of 95 percent ethanol and mix thoroughly to wet the sample (ethanol may affect the acid neutralizing capacity). Add water to a volume of 70 ml. and mix on magnetic stirrer at 300±30 r.p.m. for about one minute. Analyze the sample according to the procedure set forth in § 331.26 and calculate the percent contribution of the antacid active ingredient in the total product as follows:

Percent contribution = (Total mEq. Antacid Active Ingredient x100)/ (Total mEq. Antacid Product).

[61 FR 4823, Feb. 8, 1996, § 331.21 was redesignated as § 331.20, and revised, effective February 10, 1997. For the convenience of the reader, the revised text is set forth below.]

§ 331.20 Determination of percent contribution of active ingredients.
To determine the percent contribution of an antacid active ingredient, place an accurately weighed amount of the antacid active ingredient equal to the amount present in a unit dose of the product into a 250-milliliter (mL) beaker. If wetting is desired, add not more than 5 mL of alcohol (neutralized to an apparent pH of 3.5), and mix to wet the sample thoroughly. Add 70 mL of water, and mix on a magnetic stirrer at 300±30 r.p.m. for 1 minute. Analyze the acid neutralizing capacity of the sample according to the procedure provided in the United States Pharmacopeia 23/National Formulary 18 and calculate the percent contribution of the antacid active ingredient in the total product as follows:

Percent contribution = (Total mEq. Antacid Active Ingredient x100)/ (Total mEq. Antacid Product).
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§ 331.25 Preliminary antacid test.

(a) pH meter. Standardize the pH meter at pH 4.0 with the standardizing buffer and check for proper operation at pH 1 with 0.1 N HCl.

(b) Dosage form testing.—(1) Liquid sample. Place an accurately weighed (calculate density) and well mixed amount of the antacid product equivalent to the minimum labeled dosage (e.g., 5 ml., into a 100 ml. beaker. Add sufficient water to obtain a total volume of about 40 ml. and mix on magnetic stirrer at 300±30 r.p.m. for about one minute. Analyze the sample according to the procedure set forth in §331.25.

(2) Chewable and non-chewable tablet sample. Place an accurately weighed amount of a tablet composite equivalent to the minimum labeled dosage into a 100 ml. beaker. (The composite shall be prepared by determining the average weight of not less than 20 tablets and then comminuting the tablets sufficiently to pass through a number 20 U.S. standard mesh sieve and held by a number 100 U.S. standard mesh sieve.) Mix the sieved material to obtain a uniform sample. If wetting is desired, add not more than 5 ml. of 95 percent ethanol and mix to wet the sample thoroughly (ethanol may effect the acid neutralizing capacity). Add water to a volume of 40 ml. and mix on magnetic stirrer at 300±30 r.p.m. for about one minute. (Capsules should be tested in the same manner using the sieved capsule powder as the sample.) Analyze the sample according to the procedure set forth in §331.25.

(3) Effervescent sample. Place an amount equivalent to the minimum labeled dosage into a 100 ml. beaker. Add 10 ml. water and swirl the beaker gently while allowing the reaction to subside. Add another 10 ml. of water and swirl the beaker gently. Wash down the walls of the beaker with 20 ml. of water and mix on magnetic stirrer at 300±30 r.p.m. for about 2 to 3 minutes. Analyze the sample according to the procedure set forth in §331.25.

(4) Chewing gum samples with antacid in coating. Place the number of pieces of gum equivalent to the minimum labeled dosage in a 100 ml. beaker. Add 40 ml. of water and mix on magnetic stirrer at 300±30 r.p.m. for about 2 to 3 minutes. Analyze the sample according to the procedure set forth in §331.25.

(c) Test procedure. (1) Add 10.0 ml. 0.5 N HCl to the test solution while stirring on the magnetic stirrer at 300±30 r.p.m. for about 10 minutes after addition of acid.

(2) Stir for exactly 10 minutes after addition of acid.

(3) Read and record pH.

(4) If pH is below 3.5, the product shall not be labeled as an antacid. If the pH is 3.5 or greater, determine the acid neutralizing capacity according to the procedure set forth in §331.26.
§ 331.26 Acid neutralizing capacity test.

(a) pH meter. Standardize the pH meter at pH 4.0 with the standardizing buffer and check for proper operation at pH 1 with 0.1 N HCl.

(b) Dosage form testing—(1) Liquid sample. Place an accurately weighed (calculate density) and well mixed amount of product equivalent to the minimum labeled dosage (e.g., 5 ml., etc.) into a 250 ml. beaker. Add sufficient water to obtain a total volume of about 70 ml. and mix on the magnetic stirrer at 300±30 r.p.m. for about one minute. Analyze the sample according to the procedure set forth in §331.26.

(2) Chewable and non-chewable tablet sample. Place an accurately weighed amount of a tablet composite equivalent to the minimum labeled dosage into a 250 ml. beaker. (The composite shall be prepared by determining the average weight of not less than 20 tablets and then comminuting the tablets sufficiently to pass through a number 20 U.S. standard mesh sieve and held by a number 100 U.S. standard mesh sieve. Mix the sieved material to obtain a uniform sample.) If wetting is desired, add not more than 5 ml. of 95 percent ethanol and mix to wet the sample thoroughly (ethanol may effect the acid neutralizing capacity). Add water to a volume of 70 ml. and mix on magnetic stirrer at 300±30 r.p.m. for about one minute. (Capsules should be tested in the same manner using the sieved capsule powder as the sample.) Analyze the sample according to the procedure set forth in §331.26.

(3) Effervescent sample. Place an amount equivalent to the minimum labeled dosage into a 250 ml. beaker. Add 10 ml. water and swirl the beaker gently while allowing the reaction to subside. Add another 10 ml. of water and swirl the beaker gently. Wash down the walls of the beaker with 50 ml. of water and mix on magnetic stirrer at 300±30 r.p.m. for about one minute. Analyze the sample according to the procedure set forth in §331.26.

(4) Sample and test procedure for chewing gum with antacid in coating. Assay six pieces of gum individually in the following manner.

(i) Place one piece of gum in a 250 ml beaker and add 50 ml. of water.

(ii) Pipette 30.0 ml. of 1.0 N HCl and stir on magnetic stirrer at 300±30 r.p.m.

(iii) Stir for exactly 10 minutes after addition of acid.

(iv) Stop the stirrer and remove the gum using a long needle or similar utensil.

(v) Rinse the long needle or utensil and the gum with 20 ml. of water into the sample beaker.

(vi) Stir for exactly 5 additional minutes.

(vii) Begin titrating immediately and in a period of time not to exceed 5 minutes titrate the excess 1.0 N HCl with 0.5 N NaOH to stable pH of 3.5.

(viii) Check sample solution 10 to 15 seconds after obtaining pH 3.5 to determine that the pH is stable.

(ix) Average the results of the six individual assays and calculate the total mEq. based on the minimum labeled dosage as follows:

\[ \text{mEq. per piece of gum} = \frac{(30.0 \text{ ml.})(\text{normality of } \text{HCl})}{(\text{ml. of } \text{NaOH})(\text{normality of } \text{NaOH})}. \]

Total mEq. per labeled minimum dose=(number of pieces of gum in minimum dosage)(mEq./piece of gum).

(b) Acid neutralizing capacity test procedure (except chewing gum). (1) Pipette 30.0 ml. of 1.0 N HCl into the sample solution while stirring on the magnetic stirrer at 300±30 r.p.m.

(2) Stir for exactly 15 minutes after addition of acid.

(3) Begin titrating immediately and in a period not to exceed an additional 5 minutes titrate the excess 1.0 N HCl with 0.5 N NaOH to stable pH of 3.5.

(4) Check the sample solution 10 to 15 seconds after obtaining pH 3.5 to make sure the pH is stable.

(5) Calculate the number of mEq. of acid neutralized by the sample as follows:

\[ \text{Total mEq.} = \frac{(30.0 \text{ ml.})(\text{normality of } \text{HCl})}{(\text{ml. of } \text{NaOH})(\text{N of } \text{NaOH})}. \]

Use appropriate factors, i.e., density, average tablet weight, etc., to calculate the total mEq. of acid neutralized per minimum labeled dosage.

[39 FR 19874, June 4, 1974; 39 FR 22140, June 20, 1974]
§ 331.29 Test modifications.

The formulation or mode of administration of certain products may require modification of this in vitro test. Any proposed modification and the data to support it shall be submitted as a petition under the rules established in §10.30 of this chapter. All information submitted will be subject to the disclosure rules in part 20 of this chapter.

[47 FR 38480, Aug. 31, 1982]

EFFECTIVE DATE NOTE: At 61 FR 4823, Feb. 8, 1996, §331.29 was redesignated as §331.21, and revised, effective February 10, 1997. For the convenience of the reader, the revised text is set forth below.

§ 331.21 Test modifications.

The formulation or mode of administration of certain products may require a modification of the United States Pharmacopeia 23/National Formulary 18 acid neutralizing capacity test. Any proposed modification and the data to support it shall be submitted as a petition under the rules established in §10.30 of this chapter. All information submitted will be subject to the disclosure rules in part 20 of this chapter.

[61 FR 4823, Feb. 8, 1996]

Subpart D—Labeling

§ 331.30 Labeling of antacid products.

(a) Statement of identity. The labeling of the product contains the established name of the drug, if any, and identifies the product as an “antacid.”

(b) Indications. The labeling of the product states, under the heading “Indications,” the following: “For the relief of” (optional, any or all of the following:) “heartburn,” “sour stomach,” “and/or ‘acid indigestion’” (which may be followed by the optional statement:) “and upset stomach associated with” (optional, as appropriate) “this symptom” or “these symptoms.” Other truthful and nonmisleading statements, describing only the indications for use that have been established and listed in this paragraph (b), may also be used, as provided in §330.1(c)(2) of this chapter, subject to the provisions of section 502 of the act relating to misbranding and the prohibition in section 301(d) of the act against the introduction or delivery for introduction into interstate commerce of unapproved new drugs in violation of section 505(a) of the act.

(c) Warnings. The labeling of the product contains the following warnings, under the heading “Warnings,” which may be combined but not rearranged to eliminate duplicative words or phrases if the resulting warning is clear and understandable:

(1) “Do not take more than (maximum recommended daily dosage, broken down by age groups if appropriate, expressed in units such as tablets or teaspoonfuls) in a 24-hour period, or use the maximum dosage of this product for more than 2 weeks, except under the advice and supervision of a physician.”

(2) For products which cause constipation in 5 percent or more of persons who take the maximum recommended dosage: “May cause constipation.”

(3) For products which cause laxation in 5 percent or more of persons who take the maximum recommended dosage: “May have laxative effect.”

(4) For products containing more than 50 mEq. of magnesium in the recommended daily dosage: “Do not use this product except under the advice and supervision of a physician if you have kidney disease.”

(5) For products containing more than 5 mEq. sodium in the maximum recommended daily dose: “Do not use this product except under the advice and supervision of a physician if you are on a sodium restricted diet.”

(6) For products containing more than 25 mEq. potassium in the maximum recommended daily dose: “Do not use this product except under the advice and supervision of a physician if you have kidney disease.”

(7) For products containing more than 5 gm per day lactose in a maximum daily dosage: “Do not use this product except under the advice and supervision of a physician if you are allergic to milk or milk products.”

(d) Drug interaction precaution. The labeling of the product contains the following statements under the heading “Drug Interaction Precaution”: “Antacids may interact with certain prescription drugs. If you are presently
taking a prescription drug, do not take this product without checking with your physician or other health professional.”

(e) Directions for use. The labeling of the product contains the recommended dosage, under the heading “Directions”, per time interval (e.g., every 4 hours) or time period (e.g., 4 times a day) broken down by age groups if appropriate, followed by “or as directed by a physician.”

(f) Statement of sodium containing ingredients. The labeling of the product contains the sodium content per dosage unit (e.g., tablet, teaspoonful) if it is 0.2 mEq. (5 mg.) or higher.

(g) Exemption from the general accidental overdose warning. The labeling for antacid drug products containing the active ingredients identified in §331.11(a), (b), and (d) through (m); permitted combinations of these ingredients provided for in §331.10; and any of these ingredients or combinations of these ingredients in combination with simethicone (identified in §332.10 of this chapter and provided for in §331.15(c)), are exempt from the requirement in §330.1(g) of this chapter that the labeling bear the general warning statement “In case of accidental overdose, seek professional assistance or contact a poison control center immediately.” With the exception of sodium bicarbonate powder products identified in §331.11(k)(1), the labeling must continue to bear the first part of the general warning in §330.1(g) of this chapter, which states, “Keep this and all drugs out of the reach of children.”

(h) The word “doctor” may be substituted for the word “physician” in any of the labeling statements in this section.

§ 331.80 Professional labeling.

(a) The labeling of the product provided to health professionals (but not to the general public):

(1) Shall after June 4, 1976 contain the neutralizing capacity of the product as calculated using the procedure set forth in §331.26 expressed in terms of the dosage recommended per minimum time interval or, if the labeling recommends more than one dosage, in terms of the minimum dosage recommended per minimum time interval. For compliance purposes, the value determined by the acid neutralizing test at any point in time shall be at least 90 percent of the labeled value. No product shall be marketed with an acid neutralizing capacity below 5 mEq.

(2) May contain an indication for the symptomatic relief of hyperacidity associated with the diagnosis of peptic ulcer, gastritis, peptic esophagitis, gastric hyperacidity, and hiatal hernia.

(3) For products containing basic aluminum carbonate gel identified in §331.11(a)—Indication.

(i) For the treatment, control, or management of hyperphosphatemia, or for use with a low phosphate diet to prevent formation of phosphate urinary stones, through the reduction of phosphates in the serum and urine.”

(ii) For products containing basic aluminium identified in §331.11(a)—Warnings.

(i) Prolonged use of aluminum-containing antacids in patients with renal failure may result in or worsen dialysis osteomalacia. Elevated tissue aluminum levels contribute to the development of the dialysis encephalopathy and osteomalacia syndromes. Small amounts of aluminum are absorbed from the gastrointestinal tract and renal excretion of aluminum is impaired in renal failure. Aluminum is not well removed by dialysis because it is bound to albumin and transferrin, which do not cross dialysis membranes. As a result, aluminum is deposited in bone, and dialysis osteomalacia may develop when large amounts of aluminum are ingested orally by patients with impaired renal function.

(ii) Aluminum forms insoluble complexes with phosphate in the gastrointestinal tract, thus decreasing phosphate absorption. Prolonged use of aluminum-containing antacids by normophosphatemic patients may result in hypophosphatemia if phosphate intake is not adequate. In its more severe forms, hypophosphatemia can lead to anorexia, malaise, muscle weakness, and osteomalacia.

(b) Professional labeling for an antacid-antiflatulent combination may
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§ 332.30 Labeling of antiflatulent products.

(a) Indications. The labeling of the product states, under the heading “indications,” the following:

“antiflatulent” and/or “to alleviate or relieve the signs and symptoms of gas.” Other truthful and nonmisleading statements, describing only the indications for use that have been established, and listed in this paragraph (a), may also be used, as provided in §330.1(c)(2) of this chapter, subject to the provisions of section 502 of the act relating to...