

## SUBCHAPTER E—ANIMAL DRUGS, FEEDS, AND RELATED PRODUCTS

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500.1410 N-methyl-2-pyrrolidone.

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SOURCE: 40 FR 13802, Mar. 27, 1975, unless otherwise noted.

#### Subpart A [Reserved]

#### Subpart B—Specific Administrative Rulings and Decisions

##### **§ 500.23 Thermally processed low-acid foods packaged in hermetically sealed containers.**

Except as provided in § 507.5(b) of this chapter, the provisions of parts 507 and 113 of this chapter apply to the manufacturing, processing, or packing of low-acid foods in hermetically sealed containers, and intended for use as food for animals.

[80 FR 56337, Sept. 17, 2015]

##### **§ 500.24 Emergency permit control.**

The provisions of part 108 of this chapter shall apply to the issuance of emergency control permits for the manufacturer or packer of thermally processed low-acid foods packaged in hermetically sealed containers, and intended for use as food for animals.

[61 FR 37681, July 19, 1996]

##### **§ 500.25 Anthelmintic drugs for use in animals.**

(a) The Commissioner of Food and Drugs has determined that, in order to assure that anthelmintic drugs, including animal feeds bearing or containing such drugs, which do not carry the prescription statement are labeled to provide adequate directions for their effective use, labeling of these anthelmintic drugs shall bear, in addition to other required information, a statement that a veterinarian should be consulted for

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assistance in the diagnosis, treatment, and control of parasitism.

(b) The label and any labeling furnishing or purporting to furnish directions for use, shall bear conspicuously the following statement: "Consult your veterinarian for assistance in the diagnosis, treatment, and control of parasitism."

(c) For drugs covered by approved new animal drug applications, the labeling revisions required for compliance with this section may be placed into effect without prior approval, as provided for in § 514.8(c)(3) of this chapter. For drugs listed in the index, the labeling revisions required for compliance with this section may be placed into effect without prior granting of a request for a modification, as provided for in § 516.161(b)(1) of this chapter.

(d) Labeling revisions required for compliance with this section shall be placed into effect by February 25, 1975, following which, any such drugs that are introduced into interstate commerce and not in compliance with this section will be subject to regulatory proceedings.

[40 FR 13802, Mar. 27, 1975, as amended at 71 FR 74782, Dec. 13, 2006; 72 FR 69120, Dec. 6, 2007]

## § 500.26 Timed-release dosage form drugs.

(a) Drugs are being offered in dosage forms that are designed to release the active ingredients over a prolonged period of time. There is a possibility of unsafe overdosage or ineffective dosage if such products are improperly made and the active ingredients are released at one time, over too short or too long a period of time, or not released at all. Drugs marketed in this form, which are referred to by such terms as timed-release, controlled-release, prolonged-release, sustained-release, or delayed-release drugs, are regarded as new animal drugs within the meaning of section 201(v) of the Federal Food, Drug, and Cosmetic Act.

(b) Timed-release dosage form animal drugs that are introduced into interstate commerce are deemed to be adulterated within the meaning of section 501(a)(5) of the act and subject to regulatory action, unless such animal drug is the subject of an approved new ani-

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mal drug application, or listed in the index, as required by paragraph (a) of this section.

(c) The fact that the labeling of this kind of drug may claim delayed, prolonged, controlled, or sustained-release of all or only some of the active ingredients does not affect the new animal drug status of such articles. A new animal drug application or index listing is required in any such case.

(d) New animal drug applications for timed-release dosage form animal drugs must contain, among other things, data to demonstrate safety and effectiveness by establishing that the article is manufactured using procedures and controls to ensure release of the total dosage at a safe and effective rate. Data submitted in the new animal drug application must demonstrate that the formulation of the drug and the procedures used in its manufacture will ensure release of the active ingredient(s) of the drug at a safe and effective rate and that these release characteristics will be maintained until the expiration date of the drug. When the drug is intended for use in food-producing animals, data submitted must also demonstrate that, with respect to possible residues of the drug, food derived from treated animals is safe for consumption.

[42 FR 8635, Feb. 11, 1977, as amended at 60 FR 38480, July 27, 1995; 72 FR 69120, Dec. 6, 2007]

## § 500.27 Methylene blue-containing drugs for use in animals.

(a) New information requires a re-evaluation of the status of drugs containing methylene blue (tetramethylthionine chloride) for oral use in cats or dogs.

(1)(i) It has been demonstrated that two orally administered urinary antiseptic-antispasmodic preparations that contained methylene blue cause Heinz body hemolytic anemia in cats when used according to label directions. The specific cause of the reaction was determined to be the methylene blue contained in the preparations. The reaction can be severe enough to cause death of treated animals.

(ii) The Heinz body hemolytic anemia reaction to methylene blue has also

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been demonstrated in dogs under laboratory conditions. The precise mechanism by which methylene blue produces the characteristic erythrocytic inclusion bodies (Heinz bodies) and associated hemolytic anemia is unclear.

(2) The effectiveness of orally administered methylene blue as a urinary antiseptic is open to question. It appears that following oral administration, methylene blue is poorly and erratically absorbed and also slowly and erratically excreted in the urine. Studies in the dog indicate it is excreted in the urine essentially as leukomethylene blue stabilized in some manner. Methylene blue itself is stepwise demethylated in alkaline solutions (alkaline urine being a frequent consequence of urinary infection) to Azure B, Azure A, and Azure C. The antiseptic efficacy of all of these excretion products is unsubstantiated.

(3) In view of the foregoing, the Commissioner has concluded that animal drugs containing methylene blue for oral use in cats or dogs are neither safe nor generally recognized as effective within the meaning of section 201(v) of the act and are therefore considered new animal drugs. Accordingly, all prior formal and informal opinions expressed by the Food and Drug Administration that such drugs are "not new drugs" or "no longer new drugs" are hereby revoked.

(b) Animal drugs that contain methylene blue for oral use in cats or dogs and not the subject of an approved new animal drug application (NADA) are deemed to be adulterated under the provisions of section 501(a) (5) and/or (6) and/or misbranded under section 502(a) of the act and subject to regulatory action as of April 10, 1978.

(c) Sponsors of animal drugs that contain methylene blue for oral use in cats or dogs and not the subject of an approved new animal drug application (NADA) may submit an application in conformity with §514.1 of this chapter. Such applications will be processed in accordance with section 512 of the act. Submission of an NADA will not constitute grounds for continued marketing of this drug substance until such application is approved.

(d) New animal drug applications required by this regulation pursuant to

section 512 of the act shall be submitted to the Food and Drug Administration, Center for Veterinary Medicine, Office of New Animal Drug Evaluation (HFV-100), 7500 Standish Pl., Rockville, MD 20855.

[43 FR 9803, Mar. 10, 1978; 43 FR 12310, Mar. 24, 1978, as amended at 54 FR 18279, Apr. 28, 1989; 57 FR 6475, Feb. 25, 1992; 60 FR 38480, July 27, 1995]

### § 500.29 Gentian violet for use in animal feed.

The Food and Drug Administration has determined that gentian violet is not generally recognized as safe for use in animal feed and is a food additive subject to section 409 of the Federal Food, Drug, and Cosmetic Act (the act), unless it is intended for use as a new animal drug, in which case it is subject to section 512 of the act. The Food and Drug Administration has determined that gentian violet is not prior sanctioned for any use in animal feed.

[56 FR 40506, Aug. 15, 1991]

### § 500.30 Gentian violet for animal drug use.

The Food and Drug Administration (FDA) has determined that gentian violet is not generally recognized as safe and effective for any veterinary drug use in food animals and is a new animal drug subject to section 512 of the Federal Food, Drug, and Cosmetic Act. FDA has determined that gentian violet is not exempted from new animal drug status under the "grandfather" provisions of the Drug Amendments of 1962 (21 U.S.C. 342).

[56 FR 40507, Aug. 15, 1991]

### § 500.45 Use of polychlorinated biphenyls (PCB's) in the production, handling, and storage of animal feed.

(a) Polychlorinated biphenyls (PCB's) represent a class of toxic industrial chemicals manufactured and sold under a variety of trade names, including: Aroclor (United States); Phenoclor (France); Colphen (Germany); and Kanaclor (Japan). PCB's are highly stable, heat resistant, and nonflammable chemicals. Industrial uses of PCB's include, or did include in the past, their

use as electrical transformer and capacitor fluids, heat transfer fluids, hydraulic fluids, plasticizers, and in formulations of lubricants, coatings, and inks. Their unique physical and chemical properties and widespread, uncontrolled industrial applications have caused PCB's to be a persistent and ubiquitous contaminant in the environment, causing the contamination of certain foods. In addition, incidents have occurred in which PCB's have directly contaminated animal feeds as a result of industrial accidents (leakage or spillage of PCB fluids from plant equipment). These accidents in turn cause the contamination of food intended for human consumption (meat, milk, and eggs). Investigations by the Food and Drug Administration have revealed that heat exchange fluids for certain pasteurization equipment used in processing animal feed contain PCB's. Although heat exchange fluids in such equipment are considered to be in *closed systems*, leakage has occurred that resulted in direct contamination of animal feed with PCB's and subsequently resulted in the transfer of PCB's to human food produced by animals consuming the contaminated feed. The use of PCB-containing coatings on the inner walls of silos has resulted in the contamination of silage which has in turn caused PCB residues in the milk of dairy cows consuming the contaminated silage. Since PCB's are toxic chemicals, the PCB contamination of food as a result of these and other incidents represent a hazard to public health. It is therefore necessary to place certain restrictions on the industrial uses of PCB's in the production, handling, and storage of animal feed.

(b) The following special provisions are necessary to preclude accidental PCB contamination of animal feed:

(1) Coatings or paints for use on the contact surfaces of feed storage areas may not contain PCB's or any other harmful or deleterious substances likely to contaminate feed.

(2) New equipment or machinery for handling or processing feed in or around an establishment producing animal feed shall not contain PCB's.

(3) On or before Sept. 4, 1973, the management of establishments producing animal feed shall:

(i) Have the heat exchange fluid used in existing equipment or machinery for handling and processing feed sampled and tested to determine whether it contains PCB's, or verify the absence of PCB's in such formulations by other appropriate means. On or before Sept. 4, 1973, any such fluid formulated with PCB's must to the fullest extent possible commensurate with current good manufacturing practices, be replaced with a heat exchange fluid that does not contain PCB's.

(ii) Eliminate to the fullest extent possible commensurate with current good manufacturing practices from the animal feed producing establishment any PCB-containing lubricants for equipment or machinery used for handling or processing animal feed.

(iii) Eliminate to the fullest extent possible commensurate with current good manufacturing practices from the animal feed producing establishment any other PCB-containing materials, whenever there is a reasonable expectation that such materials could cause animal feed to become contaminated with PCB's either as a result of normal use or as a result of accident, breakage, or other mishap.

(iv) The toxicity and other characteristics of fluids selected as PCB replacements must be adequately determined so that the least potentially hazardous replacement should be used. In making this determination with respect to a given fluid, consideration should be given to (a) its toxicity; (b) the maximum quantity that could be spilled onto a given quantity of food before it would be noticed, taking into account its color and odor; (c) possible signaling devices in the equipment to indicate a loss of fluid, etc.; (d) and its environmental stability and tendency to survive and be concentrated through the food chain. The judgment as to whether a replacement fluid is sufficiently non-hazardous is to be made on an individual installation and operation basis.

(c) For the purpose of this section, the provisions do not apply to electrical transformers and condensers containing PCB's in sealed containers.

(d) For the purpose of this section, the term *animal feed* includes all articles used for food or drink for animals other than man.

**§ 500.46 Hexachlorophene in animal drugs.**

(a) The Commissioner of Food and Drugs has determined that there are no adequate data to establish that animal drugs containing hexachlorophene are safe and effective for any animal use other than in topical products for use on non-food-producing animals as part of a product preservative system at a level not to exceed 0.1 percent; that there is no information on the potential risk to humans from exposure to hexachlorophene by persons who apply animal products containing the drug at levels higher than 0.1 percent; and that there is likewise no information on human exposure to animals on which these animal drugs have been used and no information on possible residues of hexachlorophene in edible products of food-producing animals treated with new animal drugs that contain any quantity of hexachlorophene.

(b) Animal drugs containing hexachlorophene for other than preservative use on non-food-producing animals at levels not exceeding 0.1 percent are considered new animal drugs and shall be the subject of new animal drug applications (NADA's).

(c) Any person currently marketing animal drugs that contain hexachlorophene other than as part of a product preservative system for products used on non-food-producing animals at a level not exceeding 0.1 percent shall submit a new animal drug application, supplement an existing application, or reformulate the product by September 29, 1977. Each application or supplemental application shall include adequate data to establish that the animal drug is safe and effective. If the animal drug is currently subject to an approved new animal drug application, each reformulation shall require an approved supplemental application. The interim marketing of these animal drugs may continue until the application has been approved, until it has been determined that the application is not approvable under the provisions of § 514.111 of this chapter, or until an ex-

isting approved application has been withdrawn.

(d) After September 29, 1977, animal drugs that contain hexachlorophene other than for preservative use on non-food-producing animals at a level not exceeding 0.1 percent that are introduced into interstate commerce shall be deemed to be adulterated within the meaning of section 501(a)(5) of the act (21 U.S.C. 351(a)(5)) unless such animal drug is the subject of a new animal drug application submitted pursuant to paragraph (c) of this section. Action to withdraw approval of new animal drug applications will be initiated if supplemental new animal drug applications have not been submitted in accordance with this section.

(e) New animal drug applications submitted for animal drugs containing hexachlorophene for use in or on food-producing animals shall include adequate data to assure that edible products from treated animals are safe for human consumption under the labeled conditions of use.

[42 FR 33725, July 1, 1977; 42 FR 37975, July 26, 1977]

**§ 500.50 Propylene glycol in or on cat food.**

The Food and Drug Administration has determined that propylene glycol in or on cat food is not generally recognized as safe and is a food additive subject to section 409 of the Federal Food, Drug, and Cosmetic Act (the act). The Food and Drug Administration also has determined that this use of propylene glycol is not prior sanctioned.

[61 FR 19544, May 2, 1996]

**Subpart C—Animal Drug Labeling Requirements**

**§ 500.51 Labeling of animal drugs; misbranding.**

(a) Among the representations on the label or labeling of an animal drug which will render the drug misbranded are any broad statements suggesting or implying that the drug is not safe and effective for use when used in accordance with labeling direction, or suggesting or implying that the labeling does not contain adequate warnings or

adequate directions for use. Such statements include, but are not limited to:

(1) Any statement that disclaims liability when the drug is used in accordance with directions for use contained on the label or labeling.

(2) Any statement that disclaims liability when the drug is used under “abnormal” or “unforeseeable” conditions.

(3) Any statement limiting the warranty for the products to a warranty that the drug in the package contains the ingredients listed on the label.

(b) This regulation is not intended to prohibit any liability disclaimer that purports to limit the amount of damages or that sets forth the legal theory under which damages are to be recovered.

(c) Any person wishing to obtain an evaluation of an animal drug liability disclaimer under this regulation may submit it to Division of Compliance, (HFV-230), Center for Veterinary Medicine, Food and Drug Administration, 7500 Standish Pl., Rockville, MD 20855. A supplemental NADA providing appropriately revised labeling shall be submitted for any approved new animal drug the labeling of which is not in compliance with this regulation.

[41 FR 8473, Feb. 27, 1976, as amended at 54 FR 18279, Apr. 28, 1989; 57 FR 6475, Feb. 25, 1992]

**§ 500.52 Use of terms such as “tonic”, “tone”, “toner”, or “conditioner” in the labeling of preparations intended for use in or on animals.**

(a) The use of terms such as *tonic*, *tone*, *toner*, and similar terms in the labeling of a product intended for use in or on animals implies that such product is capable of a therapeutic effect(s) and causes such a product to be a drug within the meaning of section 201(g) of the Federal Food, Drug, and Cosmetic Act. The unqualified use of such terms in a product’s labeling fails to provide adequate directions and indications for use of such product and causes it to be misbranded within the meaning of section 502(a) and (f)(1) of the act. The terms *tonic*, *tone*, *toner*, and similar terms may be used in labeling only when appropriately qualified so as to fully inform the user regarding the intended use(s) of the product.

(b) The unqualified use of the term *conditioner* and similar terms in the labeling of a product intended for use in or on animals implies that such product is capable of a therapeutic effect(s) and causes such a product to be a drug within the meaning of section 201(g) of the act. The unqualified use of such terms in a product’s labeling fails to provide adequate directions and indications for use of such product and causes it to be misbranded within the meaning of section 502(a) and (f)(1) of the act. The term *conditioner* and similar terms may be used in labeling only when appropriately qualified so as to fully inform the user regarding the intended use(s) of the product. A product labeled as a “conditioner” or with a similar term can be either a food or drug depending upon the manner in which the term is qualified in the labeling to reflect the product’s intended use.

(c) An article so qualified as to be represented as a drug must be the subject of an approved new animal drug application unless the use of the article under the conditions set forth in its labeling is generally recognized as safe and effective among experts qualified by scientific training and experience to evaluate the safety and effectiveness of animal drugs.

**§ 500.55 Exemption from certain drug-labeling requirements.**

(a) Section 201.105(c) of this chapter provides that in the case of certain drugs for which directions, hazards, warnings, and use information are commonly known to practitioners licensed by law, such information may be omitted from the dispensing package. Under this proviso, the Commissioner of Food and Drugs will offer an opinion, upon written request, stating reasonable grounds therefore on a proposal to omit such information from the dispensing package.

(b) The Commissioner of Food and Drugs has considered submitted material covering a number of drug products and has offered the opinion that the following drugs when intended for those veterinary uses for which they are now generally employed by the veterinary medical profession, should be exempt from the requirements of

§ 201.105(c) of this chapter, provided that they meet the conditions prescribed in this paragraph. Preparations that are not in dosage unit form (for example, solutions) will be regarded as meeting the conditions with respect to the maximum quantity of drug per dosage unit if they are prepared in a manner that enables accurate and ready administration of a quantity of drug not in excess of the stated maximum per dosage unit:

*Atropine sulfate.* As an injectable for cattle, goats, horses, pigs, and sheep, not in excess of 15 milligrams per dosage unit; as an injectable for cats and dogs, not in excess of 0.6 milligram per dosage unit.

*Barbital sodium.* For oral use in cats and dogs, not in excess of 300 milligrams per dosage unit.

*Epinephrine injection. 1:1,000.* For cats, dogs, cattle, goats, horses, pigs, and sheep (except as provided in § 500.65).

*Morphine sulfate.* As an injectable for dogs, not in excess of 15 milligrams per dosage unit.

*Pentobarbital sodium.* For oral use in cats and dogs, not in excess of 100 milligrams per dosage unit.

*Phenobarbital sodium.* For oral use in cats and dogs, not in excess of 100 milligrams per dosage unit.

*Procaine hydrochloride injection.* Containing not in excess of 2 percent procaine hydrochloride, with or without epinephrine up to a concentration of 1:50,000. For use in cats, dogs, cattle, goats, horses, pigs, and sheep.

*Thyroid.* For oral use in dogs, not in excess of 60 milligrams per dosage unit.

#### Subpart D—Requirements for Specific Animal Drugs

##### § 500.65 Epinephrine injection 1:1,000 in 10-milliliter containers for emergency treatment of anaphylactoid shock in cattle, horses, sheep, and swine.

(a) Anaphylactoid reactions in cattle, horses, sheep, and swine occur occasionally from the injection of antibiotics, bacterins, and vaccines. Adequate directions for use of these antibiotics, bacterins, and vaccines can generally be written for use by the laity and thus are available to livestock producers. Epinephrine injection is effective for the treatment of anaphylactoid reactions in animals and would be of value in saving lives of animals if it were readily available at the time of administration of the causative

agents. In connection with this problem the Food and Drug Administration has obtained the views of the Advisory Committee on Veterinary Medicine, and other experts, and has concluded that adequate directions for over-the-counter sale of epinephrine injection 1:1,000 can be prepared.

(b) In view of the above, the Commissioner of Food and Drugs has concluded that it is in the public interest to make epinephrine injection 1:1,000 available for sale without a prescription provided that it is packaged in vials not exceeding 10 milliliters and its label bears, in addition to other required information, the following statements in a prominent and conspicuous manner: "For emergency use only in treating anaphylactoid shock. Usual Dosage: Cattle, horses, sheep, and swine—1 cubic centimeter per 100 pounds of body weight. Inject subcutaneously".

(c) The labeling must also bear a description of the symptoms of anaphylactoid shock including glassy eyes, increased salivation, grinding of the teeth, rapid breathing, muscular tremors, staggering gait, and collapse with death following. These symptoms may appear shortly after injection of a bacterin, vaccine, or antibiotic.

#### Subpart E—Regulation of Carcinogenic Compounds Used in Food-Producing Animals

SOURCE: 52 FR 49586, Dec. 31, 1987, unless otherwise noted.

##### § 500.80 Scope of this subpart.

(a) The Federal Food, Drug, and Cosmetic Act requires that sponsored compounds intended for use in food-producing animals be shown to be safe and that food produced from animals exposed to these compounds be shown to be safe for consumption by people. The statute prohibits the use in food-producing animals of any compound found to induce cancer when ingested by people or animals unless it can be determined by methods of examination prescribed or approved by the Secretary (a function delegated to the Commissioner of Food and Drugs) that no residue of that compound will be found in the food produced from those animals

under conditions of use reasonably certain to be followed in practice. This subpart identifies the steps a sponsor of a compound shall follow to secure the approval of the compound. The requirements of this subpart shall also apply to a request for an import tolerance under §510.205 of this chapter. FDA guidance documents contain the procedures and protocols FDA recommends for the implementation of this subpart. These guidance documents are available from the Dockets Management Staff (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. Requests for these guidance documents should be identified with Docket No. 1983D-0288.

(b) If FDA concludes on the basis of the threshold assessment that a sponsor shall conduct carcinogenicity testing on the sponsored compound, FDA will also determine whether and to what extent the sponsor shall conduct carcinogenicity testing on metabolites of the sponsored compound. The bioassays that a sponsor conducts must be designed to assess carcinogenicity and to determine the quantitative aspects of any carcinogenic response.

(c) If FDA concludes on the basis of the threshold assessment or at a later time during the approval process or during the review of a request for an import tolerance that the data show that the sponsored compound and its metabolites should not be subject to this subpart, FDA will continue to consider the compound for approval under the general safety provisions of the Federal Food, Drug, and Cosmetic Act for risks other than cancer or continue its review of the import tolerance request under the provisions of §§510.201 through 510.213 of this chapter (Subpart C—Import Tolerances for Residues of Unapproved New Animal Drugs in Food).

(d) This subpart does not apply to essential nutrients.

[52 FR 49586, Dec. 31, 1987, as amended at 59 FR 14365, Mar. 28, 1994; 62 FR 66983, Dec. 23, 1997; 65 FR 56480, Sept. 19, 2000; 67 FR 78174, Dec. 23, 2002; 68 FR 24879, May 9, 2003; 69 FR 17292, Apr. 2, 2004; 86 FR 52410, Sept. 21, 2021; 88 FR 45066, July 14, 2023]

#### § 500.82 Definitions.

(a) The definitions and interpretations contained in section 201 of the act apply to those terms when used in this subpart.

(b) The following definitions apply to this subpart:

*Act* means the Federal Food, Drug, and Cosmetic Act (sections 201–901, 52 Stat. 1040 *et seq.* as amended (21 U.S.C. 301–392)).

*Essential nutrients* means compounds that are found in the tissues of untreated, healthy target animals and not produced in sufficient quantity to support the animal's growth, development, function, or reproduction, e.g., vitamins, *essential* minerals, *essential* amino acids, and *essential* fatty acids. These compounds must be supplied from external sources.

*FDA* means the Food and Drug Administration.

*Limit of detection (LOD)* means the lowest concentration of analyte that can be confirmed by the approved regulatory method.

*Marker residue* means the residue selected for assay whose concentration is in a known relationship to the concentration of the residue of carcinogenic concern in the last tissue to deplete to its  $S_m$ .

*No residue* means the marker residue is below the limit of detection using the approved regulatory method. The “no residue” designation applies only to compounds of carcinogenic concern.

*Preslaughter withdrawal period* or *milk discard time* means the time after cessation of administration of the sponsored compound at which no residue is detectable in the edible product using the approved regulatory method (i.e., the marker residue is below the LOD).

*Regulatory method* means the aggregate of all experimental procedures for measuring and confirming the presence of the marker residue of the sponsored compound in the target tissue of the target animal.

$R_m$  means the concentration of the marker residue in the target tissue when the residue of carcinogenic concern is equal to  $S_m$ .

*Residue* means any compound present in edible tissues of the target animal

which results from the use of the sponsored compound, including the sponsored compound, its metabolites, and any other substances formed in or on food because of the sponsored compound's use.

*Residue of carcinogenic concern* means all compounds in the total residue of a demonstrated carcinogen excluding any compounds judged by FDA not to present a carcinogenic risk.

$S_m$  means the concentration of a residue of carcinogenic concern in a specific edible tissue corresponding to no significant increase in the risk of cancer to the human consumer. For the purpose of §500.84(c)(1), FDA will assume that this  $S_m$  will correspond to the concentration of residue in a specific edible tissue that corresponds to a maximum lifetime risk of cancer in the test animals of 1 in 1 million.

$S_o$  means the concentration of a residue of carcinogenic concern in the total human diet that represents no significant increase in the risk of cancer to the human consumer. For the purpose of §500.84(c)(1), FDA will assume that this  $S_o$  will correspond to the concentration of test compound in the total diet of test animals that corresponds to a maximum lifetime risk of cancer in the test animals of 1 in 1 million.

*Sponsor* means the person or organization proposing or holding an approval by FDA for the use of a sponsored compound or the person initiating a request for an import tolerance under §510.205 of this chapter.

*Sponsored compound* means any drug or food additive or color additive proposed for use, or used, in food-producing animals or in their feed.

*Target animals* means the production class of animals in which a sponsored compound is proposed or intended for use.

*Target tissue* means the edible tissue selected to monitor for residues in the target animals, including, where appropriate, milk or eggs.

*Test animals* means the species selected for use in the toxicity tests.

*Threshold assessment* means FDA's review of data and information about a sponsored compound to determine whether chronic bioassays in test animals are necessary to resolve questions

concerning the carcinogenicity of the compound.

[52 FR 49586, Dec. 31, 1987, as amended at 67 FR 78174, Dec. 23, 2002; 77 FR 50593, Aug. 22, 2012; 84 FR 32992, July 11, 2019; 86 FR 52410, Sept. 21, 2021]

#### **§ 500.84 Conditions for approval of the sponsored compound.**

(a) On the basis of the results of the chronic bioassays and other information, FDA will determine whether any of the substances tested are carcinogenic.

(b) If FDA concludes that the results of the bioassays do not establish carcinogenicity, then FDA will not subject the sponsored compound to the remainder of the requirements of this subpart.

(c) For each sponsored compound that FDA decides should be regulated as a carcinogen, FDA will either analyze the data from the bioassays using a statistical extrapolation procedure as outlined in paragraph (c)(1) of this section or evaluate an alternate procedure proposed by the sponsor as provided in §500.90. In either case, paragraphs (c)(2) and (3) of this section apply.

(1) For each substance tested in separate bioassays, FDA will calculate the concentration of the residue of carcinogenic concern that corresponds to a maximum lifetime risk to the test animal of 1 in 1 million. FDA will designate the lowest value obtained as  $S_o$ . Because the total diet is not derived from food-producing animals, FDA will make corrections for food intake. FDA will designate as  $S_m$  the concentration of residue in a specific edible tissue corresponding to a maximum lifetime risk of cancer in test animals of 1 in 1 million.

(2) From the appropriate residue chemistry data FDA will calculate the  $R_m$  as described in §500.86(c). The sponsor must provide a regulatory method in accordance with §500.88(b). FDA will calculate the LOD of the method from data submitted by the sponsor under §500.88. The LOD must be less than or equal to  $R_m$ .

(3) FDA will conclude that the provisions of this subpart are satisfied when no residue of the compound is detectable (that is, the marker residue is

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below the LOD) using the approved regulatory method under the conditions of use of the sponsored compound, including any required preslaughter withdrawal period or milk discard time.

[52 FR 49586, Dec. 31, 1987, as amended at 67 FR 78174, Dec. 23, 2002; 77 FR 50593, Aug. 22, 2012]

### § 500.86 Marker residue and target tissue.

(a) For each edible tissue, the sponsor shall measure the depletion of the residue of carcinogenic concern until its concentration is at or below  $S_m$ .

(b) In one or more edible tissues, the sponsor shall also measure the depletion of one or more potential marker residues until the concentration of the residue of carcinogenic concern is at or below  $S_m$ .

(c) From these data, FDA will select a target tissue and a marker residue and designate the concentration of marker residue ( $R_m$ ) that the regulatory method must be capable of measuring in the target tissue. FDA will select  $R_m$  such that the absence of the marker residue in the target tissue above  $R_m$  can be taken as confirmation that the residue of carcinogenic concern does not exceed  $S_m$  in each of the edible tissues and, therefore, that the residue of carcinogenic concern in the diet of people does not exceed  $S_o$ .

(d) When a compound is to be used in milk- or egg-producing animals, milk or eggs must be the target tissue in addition to the tissue selected to monitor for residues in the edible carcass.

(Approved by the Office of Management and Budget under control number 0910-0228)

### § 500.88 Regulatory method.

(a) The sponsor shall submit for evaluation and validation a regulatory method developed to monitor compliance with FDA's operational definition of no residue.

(b) The regulatory method must be able to confirm the identity of the marker residue in the target tissue at a minimum concentration corresponding to the  $R_m$ . FDA will determine the LOD from the submitted analytical method validation data.

(c) FDA will publish in the FEDERAL REGISTER the complete regulatory method for ascertaining the marker

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residue in the target tissue in accordance with the provisions of sections 409(c)(3)(A), 512(d)(1)(I), and 721(b)(5)(B) of the act.

(d) If the sponsor initially submitted a request for an import tolerance under § 510.205 of this chapter, FDA will make the complete regulatory method for ascertaining the marker residue in the target tissue publicly available pursuant to § 510.207(b) of this chapter.

(Approved by the Office of Management and Budget under control number 0910-0228)

[52 FR 49586, Dec. 31, 1987, as amended at 67 FR 78174, Dec. 23, 2002; 86 FR 52410, Sept. 21, 2021]

### § 500.90 Waiver of requirements.

In response to a petition or on the Commissioner's own initiative, the Commissioner may waive, in whole or in part, the requirements of this subpart except those provided under § 500.88. A petition for this waiver may be filed by any person who would be adversely affected by the application of the requirements to a particular compound. The petition shall explain and document why the requirements from which a waiver is requested are not reasonably applicable to the compound, and set forth clearly the reasons why the alternative procedures will provide the basis for concluding that approval of the compound satisfies the requirements of the anticancer provisions of the act. If the Commissioner determines that waiver of any of the requirements of this subpart is appropriate, the Commissioner will state the basis for that determination in the regulation approving marketing of the sponsored compound.

(Approved by the Office of Management and Budget under control number 0910-0228)

### § 500.92 Implementation.

(a) This subpart E applies to all new animal drug applications, food additive petitions, color additive petitions, and requests for import tolerances concerning any compound intended for use in food-producing animals (including supplemental applications and amendments to petitions).

(b) This subpart E also applies in the following manner to compounds already approved:

(1) For those compounds that FDA determines may induce cancer when ingested by man or animals, i.e., suspect carcinogens, §§ 500.80(b), 500.82, and 500.90 apply.

(2) For those compounds that FDA determines have been shown to induce cancer when ingested by man or animals, §§ 500.82 through 500.90 apply.

[52 FR 49586, Dec. 31, 1987, as amended at 86 FR 52410, Sept. 21, 2021]

### Subpart F—Methods for Detection of Residues of Carcinogenic Compounds Used in Food-Producing Animals

SOURCE: 76 FR 72618, Nov. 25, 2011, unless otherwise noted.

#### § 500.1410 N-methyl-2-pyrrolidone.

(a) *Standard for residues.* No residues of *n*-methyl-2-pyrrolidone may be found in the uncooked edible tissues of cattle and swine as determined by methods in paragraph (b) of this section.

(b) *Incorporation by reference.* The standards required in this section are incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the Food and Drug Administration's Dockets Management Staff (HFA-305), 5630 Fishers Lane, Rm. 1061, Rockville, MD 20852, 240-402-7500, between 9 a.m. and 4 p.m., Monday through Friday. It may be obtained from the sources indicated elsewhere in paragraph (b) of this section and at: <https://www.fda.gov/about-fda/center-veterinary-medicine/cvm-foia-electronic-reading-room>. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

(1) Food and Drug Administration, Center for Veterinary Medicine, 7500 Standish Pl., Rockville, MD 20855, 240-402-7002.

(i) “Method of Analysis: *N*-methyl-2-pyrrolidone,” September 26, 2011; the

method of analysis for uncooked edible tissues of cattle.

(ii) [Reserved]

(2) Merck Animal Health, 29160 Intervet Lane, Millsboro, DE 19966, 1-800-211-3573.

(i) “Determinative and Confirmatory Procedures for the Analysis of *N*-Methyl-2-pyrrolidone (NMP) in Swine Liver Tissue using LC-MS/MS,” July 20, 2017; the method of analysis for uncooked edible tissues of swine.

(ii) [Reserved]

(c) *Related conditions of use.* See §§ 522.814, 522.955, and 522.1660a of this chapter.

[87 FR 10966, Feb. 28, 2022, as amended at 88 FR 55562, Aug. 16, 2023]

## PART 501—ANIMAL FOOD LABELING

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