

Agricultural Research Service, Meat Inspection Division

Abstract

This paper cites portions of the Meat Inspection Act giving authority for the control of chemicals in meat and meat food products. It defines the extent of coverage, procedures for determining compliance, criteria used in evaluating safety or suitability of chemicals used in the treatment of fats, fat derivatives or other meat food products. It identifies certain requirements covering the use of detergents, paints, adhesives, packaging materials and other miscellaneous substances used in the packing plant. It mentions the system of checking employed by field laboratories and in-plant inspectors. It notes the contact points with representatives of the Division and lists the publication containing pertinent regulations.

Chemical Requirements as They Apply to the Fat and Oil Industry¹

Introduction

THE CHEMICAL EVALUATION and Control Office of the Meat Inspection Div. has responsibility for handling those matters of a chemical nature relating to that part of the meat packing industry subject to Federal inspection. In the course of our work we naturally have many contacts with people in the fats and oils industry, many of whom belong to this Society or attend the Society's meetings. Because of many inquiries concerning our requirements, we have become conscious of a need for better dissemination of information as to our requirements so that interested people may know the procedure to follow to get consideration for use of an item in an establishment for which we provide inspection. A better understanding of our requirements by industry people would be of mutual benefit. It would alleviate many of the problems we face in obtaining information necessary for proper evaluation of additives or other items and would help industry to get a decision more promptly.

Regulatory Agencies

For those not entirely familiar with this subject, there are three Federal agencies administering separate acts regulating foods intended for movement in interstate or foreign commerce. These are the Meat Inspection Division, ARS, USDA, which administers the Meat Inspection Act of 1906 covering red meats; the Poultry Division, AMS, USDA, which administers the Poultry Inspection Act of 1958 covering poultry products; and the Food and Drug Administration, Dept. of Health, Education and Welfare, which administers the Food, Drug and Cosmetics Act of 1906 and controls those foods not specifically covered by one of the other two laws. When the Food Additives Amendment to the Food, Drug and Cosmetic Act was passed in 1958, many persons construed the meaning of the amendment to place within the Food and Drug Administration authority to regulate the use of chemical additives in meats and meat food products. Actually, this amendment did not change the authority of the Meat Inspection Div. or lessen its responsibilities for acceptance or rejection of substances used in the production and distribution of meat food products.

Meat Inspection Act

A portion of the Meat Inspection Act giving the Secretary of Agriculture authority for regulating additives in meat is as follows: "Inspectors shall mark, stamp, tag or

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label as inspected and passed all such products found to be sound, healthful and wholesome and which contain no dyes, chemicals, preservatives or ingredients which render such meat or meat food products unsound, unhealthful, unwholesome or unfit for human foods." (21 USC 74).

The law also authorizes the Secretary of Agriculture to issue regulations for as quoted from the law "and said Secretary of Agriculture shall from time to time make such rules and regulations as are necessary for efficient execution of the provisions of the Act and all inspections and examinations made under this Act shall be such and made in such manner as described in the rules and regulations prescribed by the said Secretary of Agriculture not inconsistent with the provisions of this Act." (21 USC 89). Under this authority the Meat Inspection Div. acting for the Secretary can, subject to certain limitations and through proper procedures, accept or deny the use of chemical additives in meat foods subject to its inspection.

Prior Approval

The requirements relative to approval of additives are generally understood by representatives of the meat packing industry. They know that prior approval must be obtained from the Division to use a new additive or material or to use an approved additive or material where its intended use differs from the terms of the previous approval. They also understand the burden of proof for demonstrating suitability of a substance rests with the proponent. These requirements are not as well known or understood by the people supplying materials to the packing industry. It is to these people that the greatest contribution may be made through presentation of this paper, outlining our responsibilities and requirements.

Additives Defined

Chemical additives, for the purpose of this consideration, are divided into two categories—intentional additives and incidental additives. Intentional additives are those which are added to the product in definite amounts for the purpose of modifying or imparting certain properties to product.

¹ Presented at the AOCs Meeting in New Orleans, 1964.

Incidental additives are those which may remain in the product as a result of their use in some stage of processing or which migrate from packaging material, can coating, etc., to product in contact with it. Many questions must be resolved relative to a specific proposal where either a direct or indirect additive is involved. Each additive presents its particular set of problems. They require careful study to determine if the material is of such a nature that it should or should not be allowed.

Direct Additives

Let us first consider the direct additive. For a direct additive, there are five conditions that must be met before the Division will permit its use. It must be safe, have utility, benefit the consumer, not promote deception, and have a practical method of control. These questions need not necessarily be answered in the order listed. That is, there would be no point in undertaking animal feeding studies to establish the safety of a proposed additive, if we were going to deny permission for its use because one or more of the other conditions could not be satisfied. It is advisable for a packer considering the use of a new additive, a supplier who intends to propose a new additive to the industry, or a developing group intending to investigate a substance to petition for use in a meat product, to come in and discuss the question with our office during the early stages of investigation. This may be done before a written proposal is submitted. This gives us an opportunity to discuss the proposal and to identify the type of data needed for our evaluation. Obviously, it would be unwise to spend time and substance on the proposal if, indeed, there were no valid reasons to believe the material would be generally recognized as safe under conditions of use.

Our requirements are not intended to stop investigation or research in the food chemical field. We recognize that the use of chemical additives has made major contributions to our food supply. We also are aware that because of the unfavorable publicity given the subject of indiscriminate use of chemicals, the public has an aversion to use of these in their food. We must, therefore, in discharging our responsibility permit only those materials that, without question, will result in better products.

While the Divisions primary obligation is to protect the consumer, it may not use its authority arbitrarily to prohibit the industry from progressing. I am sure most of you in this industry are aware there are many checks and balances on the Division to which the meat packer or his supplier may appeal a decision if he believes he has cause to do so. While this avenue of appeal has always been available, the industry has found it necessary to use it only on very few occasions.

Notice of Acceptance

In the past it was the policy of the Division, when accepting a new additive, to issue a memorandum to the inspectors in charge and to the owners and operators of federally inspected meat packing plants informing them of the acceptance of the additive. It is the current policy, however, that when any direct additive has been found to meet our criteria for use in a product or products, a notice of intention to modify our regulations to accept such an additive is published in the Federal Register. This is published first as a notice of intention in order to give the public an opportunity to comment. If, after comments are received and evaluated, it is decided to allow the additive, the final notice is published and incorporated in our regulations.

It should be noted that while the Division initiates action and prepares the docket for notice of intention or the final notice of acceptance, its issuance is not automatic with this Division. Proposals must be cleared with appropriate offices in Agricultural Research Service and signed by the Administrator or his associate. When action regarding a direct additive becomes final, every packer has an opportunity to use the additive in appropriate products subject, of course, to laws governing patent rights or other applicable restrictions.

Labeling Additive Mixtures

Questions sometimes arise as to just what agency has responsibility for identification and control over an accepted additive moving interstate. The Food and Drug Administration has jurisdiction over the preparation and labeling of proprietary mixes of seasoning, flavoring, etc. Through the Food Additive Amendment it accepts or denies use of additives in foods and in conjunction with processing of food. Meat Inspection has responsibility for accepting or rejecting these when presented for use in meat plants. While action by the Food and Drug Administration may show no objection to a specific substance as a direct or indirect additive, this does not mean it is automatically given the same status in meat foods. We may for one reason or another not allow one that they regard as being safe. We must make this decision since, in addition to safety, there are other variables involved. It is not our policy to accept substances that the Food and Drug people have declared to be unsafe.

We do under some circumstances require certain information on the label of a proprietary mixture in addition to that required by the Food and Drug Administration. This is to provide data necessary for properly regulating use of some components in the mixture whose amounts are restricted in product. Therefore, those persons having an additive which they desire to use both in meat plants and other food processing operations should contact each agency involved to get clearance for use of the item in their separate areas of jurisdiction.

Indirect Additives

Much attention must be given to the numerous proposals for use of materials that may contribute indirect additives to product. Items in this category are: packaging materials, containers, printing inks, coatings for packaging materials, lard drums, etc. We obtain data on the composition of these materials from their basic manufacturer where possible. This helps determine if components present are harmless, would not migrate to product or, if certain ones did migrate, they would not be present at objectionable levels. Here again the proponent has to produce data through toxicity or extraction studies to show safety. In some cases both may be required. Here again a method of control is a must.

Our Division does not conduct toxicity or extraction tests. We do suggest and approve plans for studies and evaluate results obtained. At times we utilize our laboratories to verify certain results reported; check the chemical, physical and technological properties of a chemical in the literature where available. We also consult with people in the Pharmacology Division of the Food and Drug Administration on the safety of a material since we do not have a pharmacologist in our Division. At times we call upon the research facilities of Agricultural Research Service to provide information on various substances.

Detergents

Since the central theme of this meeting is detergents, I will mention some of our requirements on use of these in meat plants. Even though detergents used under supervision are not expected to contribute any significant residue in meat, they are checked out to determine that only acceptable components are involved. Only components known to be relatively harmless and which after application can easily be rinsed away without leaving residues or odor are allowed.

Our Manual of Inspection Procedures identifies those materials permitted. While the Manual is normally distributed only to our inspection force, a copy may be obtained by contacting the Division in Washington. We have also devised a fact sheet having to do with our requirements on detergents. This leaflet is available to those who request it from the Division.

We look with favor on use of the biodegradable detergents. Although the Division does not have authority to control effluent of waste from plant, we recognize the public health significance of chemical contaminants in streams.

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• *Chemical Requirements . . .*

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Within the scope of our authority we exert pressure designed to minimize the amount and kind of objectionable materials getting into the waste within the plant.

Lubricants, Paints, Plastics, Adhesives, etc.

Lubricants accepted for food-contact machinery are restricted to those consisting of animal or vegetable fats, refined mineral oils and petrolatum. These and greases of aluminum, calcium or sodium soaps are permitted on areas of equipment where no significant contact of product and lubricant occurs. Lithium soaps or greases are not allowed on equipment in edible products area.

Paints used in the packing plant also must be chemically evaluated. We accept those paints whose formulas contain materials that are known to be relatively nontoxic. The metals known to form toxic salts are generally not allowed since through flaking or peeling of the paint they may get into product and result in injury to person consuming product. We accept lead driers up to a level of one per cent based on the dry weight of the paint. We also allow use of paints containing a small amount of an approved fungicide to control mold in plants where mold is a problem provided, in the opinion of our inspector, the paint is used in such a way that it will not result in contamination of the product.

Plastics, coating, adhesives and printing inks used in containers or packaging of meats also come under our review. While our requirements on these generally parallel those of the Food and Drug Administration, there are some differences. It, therefore, is necessary that we review composition data of the formulation even though the substances may have been covered by the Food and Drug regulations.

Points of Contact

As mentioned previously, my primary interest here is

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to provide information to those who may have materials that they wish the packing industry to use and who need to know how to proceed to get an opinion of acceptance from us. Although we have seven field laboratories located in large meat packing cities for inspectors to use in determining suitability of materials being used in the plant, initial acceptance of the substance must be obtained from the Washington office. The chemist in charge of a field laboratory or the inspector in charge in a particular location may be able to give advice as to whether or not a substance or material is generally permitted. If it is not, he can tell the inquirer whom to contact to get consideration for its use.

Presentation of Data

In general, a proponent desiring to offer a new packaging material, paint, insecticide, plastic, detergent or other miscellaneous materials should forward his request to the Chemical Evaluation and Control Office, Meat Inspection Div., ARS, USDA, Washington, D.C. The data supplied with his proposal should include the name and code number of the item or formulation, a complete statement of chemical composition and the proposed method of use.

While we do not perform chemical analysis on items or preparations prior to their entry into the packing plant, we do give an opinion as to their acceptability based on available composition data and on the physical characteristics of a sample provided. Therefore, we recommend that wherever practical a sample accompany the composition data.

Many times the proponent does not know the chemical identity of the particular chemical supplied him by another firm which he uses in his formulation. In this event he should request his supplier or the basic manufacturer of the material to submit information on the identity of the compound directly to our office. It is the policy of the Division to regard all information provided as confidential.

Notice of Approval or Disapproval

When our evaluation is completed, the proponent is notified by letter of our decision. If the decision is favorable, we notify our field laboratories and if a particular plant is involved, we also notify our inspector in charge. We identify the item to the inspector by code or by trade name only and state the condition under which it may be used.

If a proponent wishes to show our letter of acceptance to our inspectors or other interested persons as evidence the item was determined to be satisfactory, he may do so. Further, we do not object to his making reference to our acceptance on the container label or advertising media, provided the statement is factual and is not given undue prominence.

An opinion of acceptance from us is not to be construed as a recommendation for use of the material. It simply means we have no objections to its use for the purpose stated. It should be noted that when an item is presented for use at the plant even though initially approved by the Washington office, it is subject to sampling by the inspector for laboratory examination to determine if the item is as represented and is otherwise acceptable. The inspector has the authority to reject a material if found not to be as represented or does not perform satisfactorily under the conditions of use.

REFERENCE MATERIAL

The following printed materials, which outline many of the requirements of the Division with respect to acceptance for use of additives or miscellaneous materials in federally inspected meat packing plants, are available either from the Division or from the U.S. Printing Office in Washington, D.C.:

1. Regulations Governing the Meat Inspection of the United States Department of Agriculture.
2. Manual of Meat Inspection Procedures of the United States Department of Agriculture.
3. Resinous and Polymeric Coatings Accepted for Food Contact Surfaces by the Meat Inspection Division, Agricultural Research Service, United States Department of Agriculture.
4. Fact Sheet on Detergent Preparations Used in Federally Inspected Meat Packing Plants.
5. General Information on Pesticides Used in Federally Inspected Meat Packing Plants.
6. Summary of Activities of the Meat Inspection Division for the Fiscal Year 1963.

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