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# PRACTICAL CONSIDERATIONS OF THE FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT FOR FRUIT AND VEGETABLE PACKERS

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*Abstract.* **The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended in 1978, is administered by the Environmental Protection Agency (EPA) and contains provisions for the labeling of all products considered as pesticides. The label is a legal document that is at the same time a "permit to manufacture" the pesticide product in question. Since the law places much of the responsibility for using properly labeled pesticide products upon the user, it is important that the Florida packer of fresh fruits or vegetables know what products are considered pesticides, within the meaning of the act, and what constitutes a legal label. Various pesticide products are discussed as well as the EPA requirements for labeling them.**

In a recent survey by the U. S. Environmental Protection Agency (EPA) it was found that possibly 7%, by weight, of the total pesticides used in Florida agriculture were misused, affecting 44%, or 66 of the 150 pesticides surveyed (10). Pesticide use in the United States is governed by the regulations of the EPA under authority granted by Congress in the Federal Insecticide, Fungicide and Rodenticide Act. Under current policies, the enforcement of FIFRA has been turned over to the State of Florida with the expectation that local enforcement and inspection will result in reduced improper pesticide use (7, 8, 9). It is also a legal requirement of the State of Florida that all pesticide products be registered with the Florida Dept. Agr. & Consumer Serv. (FDACS) (6, 11).

Since there may be severe penalties associated with pesticide misuse (1, 2, 3, 8), it is important that the packer of fresh fruits and vegetables make sure that any product he receives from a supplier meets the requirements of the current regulations. In order to protect his operation, the packinghouse manager needs to be aware of what constitutes a pesticide and what FIFRA requires of a pesticide product in order for it to be used on fresh fruits and vegetables. For the purpose of this paper the discussion will be limited to those pesticides that are normally applied, postharvest, to fresh fruits and vegetables in Florida packinghouses (12). Only those products that are deliberately applied as part of the preparation process are considered, although much of the information has a general application.

## What constitutes a pesticide?

*A pesticide* is any product that is used to control fungi and molds; e.g. thiabendazole (TBZ), benomyl, Na o-phenylphenate (Dowicide A), sec-butylamine (2-AB), biphenyl, imazalil (20), botran, captan (3, 4, 17), or 2,4-dichlorophenoxyacetic acid (2,4-D) (19). Products such as chlorine that are used to prevent the spread of decay organisms (14, 23), products that are meant to preserve the "vitality" of the produce such as 2,4-D (4, 19) and products used to ripen or degreen the produce, such as ethylene (13, 21, 22, 24), are also considered "pesticides" and subject to the requirements of FIFRA and State pesticide regulations (1, 2, 3, 8, 9).

*A pesticide product* is a formulation containing a pesticide prepared for application (3). Pesticide products may contain from the smallest effective concentration of a pesticide (ready to use) up to 100% active ingredient, and will still be subject to the regulations of the EPA. All pesticide products must be registered with the EPA and also with the FDACS, Bureau of Feed, Seed, Fertilizer, and Pesticide. In certain cases, a pesticide product needs only to have a State registration if it is only manufactured, sold and used within the State of Florida and was registered with the FDACS before Oct. 21, 1972. In either case, the product must be registered in order to be sold and used.

## What Identifies a Registered Pesticide?

A registered pesticide must have a label which will give

the conditions under which the pesticide should be handled and stored, and how it should be used. The label is, in effect, a legal document that serves as the primary source of information to the user, it is also the primary tool of pesticide registration (18). An EPA-registered label will so indicate on its face by the presence of the statement 'EPA Reg. No. XXXXX-XX". The X's represent numbers assigned by the EPA for that product.

The first set of numbers in an EPA registration number is the EPA company number. This is a number assigned to a registrant, producer or distributor and makes up a part of all registration and establishment numbers. Currently assigned numbers range from 3 to over 40,000. For example, the number assigned to Agri-Chem, Inc. is 43,410.

Exceptions to this general rule apply to those pesticide products that have State Registrations and Section 18 or 24(c) labels. These special cases will be considered below.

### What Are the Elements of a Registered Label?

When a product has been registered with the EPA, a label that conforms with the current regulations is approved and must appear on all packages of that product. Fig. 1 illustrates the format for a label. The circled numbers refer to various parts of the label that have specific requirements with the EPA (18). The label is generally considered to have 2 parts that have specific regulations governing the placement of label elements and their type size (3). These are the front panel and the side panels and the minimum type size allowed for certain key words and phrases are specified in Table 1.

*The label elements* that are governed by the regulations are:

1. The Product Name. This may be descriptive or fanciful, but must not be deceptive nor misleading. The product

Table 1. Minimum type size requirements for Environmental Protection Agency-registered labels.

| Size of front panel in inches[2] | Required signal word: all capitals | "Keep out of Reach of Children" |
|---|---|---|
| 5 & under | 6 point[z] | 6 point |
| 5+ to 10 | 10 point | 6 point |
| 10+ to 15 | 12 point | 8 point |
| 15+ to 30 | 14 point | 10 point |
| over 30 | 18 point | 12 point |

[z]Print size is expressed in printer's points. One point = about 1/72 inch (0.35 mm).

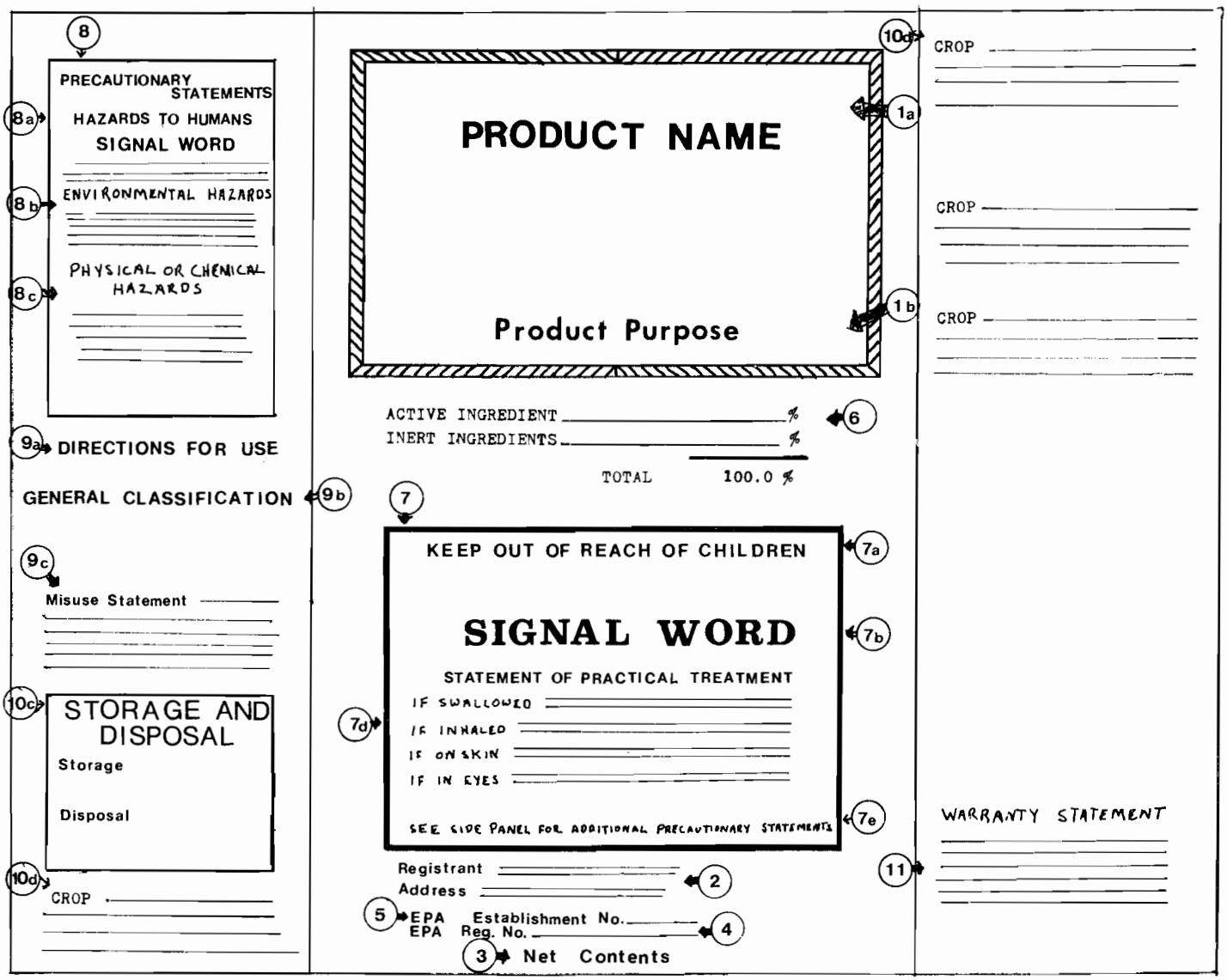


Fig. 1. Typical layout for an Environmental Protection Agency Registered label.

name may also be accompanied by a factual statement of the product's purpose.

2. The Registrant's Name and Address. Must give at least the city and zip code of the registrant. If qualified by the expression "Packed For," "Distributed By," etc. the product is a "distributor product," meaning the basic registration is held by another person, or company.

3. Net Contents. The net contents is to be stated in terms of the largest suitable units, i.e. "1 lb. 10 oz." rather than "26 oz."

4. EPA Registration Number. This number is assigned by the EPA when the product's formulation and label have been approved. It must appear on the original unbroken package when it is shipped from the manufacturer. (Any alteration of the product or its package invalidates the registration). It would take the form "43410-3" which would indicate product number 3 of company number 43410. Any suffixes to this number would indicate some State registrations and distributor products. If the product was first registered before 1971 it may bear the designation "USDA Reg. No. XXXX-XX. These products are required to have updated labels when the stock on hand in 1971 runs out.

5. EPA Establishment Number. This gives the location where the pesticide product was actually manufactured. The number will appear in the form "43410-FL-1" indicating that the product was produced at registered location number one in the state of Florida by company number 43,410. The number must appear somewhere on the container, but not necessarily on the label. If a label has only an EPA establishment number it is not an EPA approved product.

6. Ingredient Statement. This must be on the front panel and must list all active ingredients and their percentages. The inert ingredients may be listed by their total combined percentage only, but they and the active ingredients must total 100.0.

7. Front Panel Precautionary Statements. All pesticide products must have the warning "Keep out of reach of children" and a signal word (all capitals) appropriate to the toxicity of the product (Table 2). First aid statements *may* be located here for any product, but *must* be here for category I products. The category of the product is determined by the highest hazard of any toxicity hazard indicators.

Toxicity hazard indicators indicate the toxicity of the product when tested for oral toxicity, dermal toxicity, inhalation toxicity, primary skin irritation and eye irritation. Table 2 does not list dermal or inhalation toxicity. These are similar to oral toxicity in determining the hazard category except that dermal dosages are four times the oral and inhalation are 1/250th oral. Physical or chemical hazards may raise the signal word required, i.e., ethylene is in category IV in all respects except that it is explosive and so rates a DANGER signal word. The hazard word gives an indication of how the product should be handled and will serve to protect the worker using it (5, 28).

Table 2. Environmental Protection Agency toxicity categories and signal words.

| Signal word | Toxicity category | Oral Toxicity (mg/kg) | Skin effects at 72 hr | Eye effects |
|---|---|---|---|---|
| Caution | IV | Over 5000 | Mild or Slight | No Irritation |
| Caution | III | 500 to 5000 | Moderate | No corneal opacity; irritation reversible within 7 days |
| Warning | II | 50 to 500 | Severe irritation | Corneal opacity; reversible in 7 days |
| Danger[z] | I | Up to 50 | Corrosive | Corrosive; Corneal opacity not reversible in 7 days |

[z]If "Pesticide Product" is placed in category I due to oral, dermal or inhalation toxicity, the word "Poison" with skull and crossbones in red shall also appear on label.

8. Side Panel Precautionary Statements. Any information not already on the front panel pertaining to toxicity, physical and chemical hazards, environmental hazards are here.

9. Directions For Use. The product classification and the misuse statement are the first items of information under this heading.

There are 2 classifications, General and Restricted. General classification products may be used according to the label instructions by any person having a need for them. The General classification is not usually indicated on the label under current EPA practices. Restricted pesticides can only be applied by a licensed pesticide applicator (5). There are at present no pesticides that fall into the Restricted category for packinghouse application to fruits and vegetables in Florida (16).

The misuse statement also appears here. At present it takes the form: "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." Using a product on a crop for which it is not registered, aerial application unless specifically allowed, use at a higher level than called for on the label would be examples of misuse. The use of a product at a rate less than called for on the label is not deemed to be misuse (7).

10. Storage and Disposal. Storage and disposal of product and container are here. Container disposal is very important as these are a major source of environmental pollution (27).

Specific instructions for the use of the product are also located in this section. These give mixing instructions, application instructions and the manner and rate of application. The site (crop) of application and the pest to be controlled are also specified. To use a product against a pest not specified on the label is not considered misuse if the site (crop) is specified on the label. It is considered a misuse to use a pesticide product against a pest on a site not specified on label despite the fact that there is a tolerance established for the pesticide on that site (1).

An example of this would be a product, containing o-phenylphenol, registered for the control of *Penicillium spp.* on citrus. To use this product to control stem end rot on citrus would not be a misuse, while using it to control *Penicillium spp.* on apples would be a misuse even though there is a tolerance for o-phenylphenol established for apples.

11. Warranty Statement. This is an optional statement by the registrant. These Waranty/disclaimer statements are currently under review by the EPA and may require revision in the future (15).

### What Exceptions Are There to EPA Registration?

In the strict sense, there are no exceptions to the requirement that a pesticide product must be registered with the EPA. There are, however, some provisions that allow pesticides to be used without going through the complete registration process with the EPA. These products are all limited in their use to within a single state although some

products may have the same exceptions in several states. These exceptions are intrastate products registered before 1971, Section 18 (crisis) exemptions, and Section 24(c) (special local need) products. Intrastate products are discussed above. Section 18 products are new pesticides for which a permanent tolerance has not been established nor has a tolerance been established for the site on which the pesticide is to be used. The product is only to be used during the period of a crisis as determined by FDACS and for a specific quantity of pesticide. Examples of this are the new pesticide imazalil on citrus (4) or benomyl on lettuce (25, 26). Section 24(c) products are products that have been registered for another use and have an active ingredient that has been established for the site but for which no product has been registered. Then a 24(c) exemption may be granted to specific products within the State. Section 24(c) registrations are usually good until withdrawn.

### How does the packer protect himself?

This paper is not intended to be a source of legal counsel and when this is needed the packer should seek the advice of qualified people. From the practical standpoint, if the packer reads and follows the instructions on the label and does not use the product in any manner not allowed by the product label he should be on firm ground. If in doubt, the EPA regulations provide a way by which the user may protect himself from a supplier who has not complied with the law. This is found in the Code of Federal Regulations, Title 40, part 162.12 "Guaranty of Pesticide" (3). This provides that if a packer has a letter from his supplier on file that specifically guarantees that the product suppied is lawfully registered with the EPA, then he is exempt from the penalty provisions of the law.

As a practical matter, a packer would be wise to request such a letter from each person from whom he purchases pesticide products. It would also seem prudent to have a similar guarantee with regard to State registration laws.

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NOTE: Since the publication of this paper, the protection afforded by 40CFR 162.12 has been deleted from the CFR.

Since this publication the Administrator of the EPA has activated Section 25 of FIFRA and under very restricted conditions some pesticides are exempted from the requirements of a Federal Registration. About 1/2 of the States still require registration of thess products. 2/2007