

weight of sodium ferrocyanide decahydrate.

[41 FR 38657, Sept. 10, 1976; 41 FR 48100, Nov. 2, 1976]

## **PART 579—IRRADIATION IN THE PRODUCTION, PROCESSING, AND HANDLING OF ANIMAL FEED AND PET FOOD**

### **Subpart A—General Provisions**

Sec.

579.12 Incorporation of regulations in part 179.

### **Subpart B—Radiation and Radiation Sources**

579.22 Ionizing radiation for treatment of animal diets.

579.40 Ionizing radiation for the treatment of poultry feed and poultry feed ingredients.

AUTHORITY: 21 U.S.C. 321, 342, 343, 348, 371.

### **Subpart A—General Provisions**

#### **§ 579.12 Incorporation of regulations in part 179.**

Regulations providing for irradiation in the production, processing, and handling of food in part 179 of this chapter are incorporated in subchapter E as applicable to use in the production, processing, handling, and labeling of animal feed and pet food, except where specifically provided for in this part. Any facility that treats animal feed and pet food with ionizing radiation must comply with the requirements of part 507 of this chapter and other applicable regulations.

[51 FR 5993, Feb. 19, 1986, as amended at 80 FR 56356, Sept. 17, 2015]

### **Subpart B—Radiation and Radiation Sources**

#### **§ 579.22 Ionizing radiation for treatment of complete diets.**

Ionizing radiation for treatment of complete diets for animals may be safely used under the following conditions:

(a) *Energy sources.* Ionizing radiation is limited to:

(1) Gamma rays for sealed units of the radionuclides cobalt-60 or cesium-137.

(2) Electrons generated from machine sources at energy levels not to exceed 10 million electron volts.

(b) *Uses.* (1) The ionizing radiation is used or intended for use in single treatment as follows:

| Food for irradiation  | Limitations  | Use  |
|---|--|--|
| Bagged complete diets, packaged feeds, feed ingredients, bulk feeds, animal treats and chews. | Absorbed dose: Not to exceed 50 kiloGrays. Feeds and feed ingredients treated by irradiation should be formulated to account for nutritional loss. | Microbial disinfection, control or elimination |

(2) If an irradiated feed ingredient is less than 5 percent of the final product, the final product can be irradiated without being considered to be re-irradiated.

[51 FR 5993, Feb. 19, 1986; 51 FR 8315, Mar. 11, 1986, as amended at 58 FR 18148, Apr. 8, 1993; 66 FR 18540, Apr. 10, 2001]

#### **§ 579.40 Ionizing radiation for the treatment of poultry feed and poultry feed ingredients.**

Ionizing radiation for the treatment of complete poultry diets and poultry feed ingredients may be safely used as follows:

(a) *Energy sources.* Ionizing radiation is limited to:

(1) Gamma rays from sealed units of cobalt-60 or cesium-137;

(2) Electrons generated from machine sources at energy levels not to exceed 10 million electron volts (MeV);

(3) X-rays generated from machine sources at energies not to exceed 5 MeV, except as permitted by § 179.26(a)(4) of this chapter; or

(4) X-rays generated from machine sources using tantalum or gold as the target material and using energies not to exceed 7.5 MeV.

(b) *Limitation.* The ionizing radiation is used for feed or feed ingredients that do not contain drugs.

(c) *Use.* Ionizing radiation is used as a single treatment for rendering complete poultry diets or poultry feed ingredients salmonella negative as follows:

(1) Minimum dose 2.0 kiloGrays (kGy) (0.2 megarad (Mrad)); maximum dose 25 kGy (2.5 megarads Mrad). The absorbed dose of irradiation is to be based on initial concentration of salmonella using the relationship that 1.0 kGy (0.1 Mrad) reduces salmonella concentration by one log cycle (one decimal reduction).

(2) Feeds treated by irradiation should be formulated to account for nutritional loss.

(3) If an irradiated feed ingredient is less than 5 percent of the final product, the final product can be irradiated without being considered to be re-irradiated.

[60 FR 50099, Sept. 28, 1995, as amended at 78 FR 27304, May 10, 2013; 78 FR 34565, June 10, 2013]

## PART 582—SUBSTANCES GENERALLY RECOGNIZED AS SAFE

### Subpart A—General Provisions

#### Sec.

- 582.1 Substances that are generally recognized as safe.
- 582.10 Spices and other natural seasonings and flavorings.
- 582.20 Essential oils, oleoresins (solvent-free), and natural extractives (including distillates).
- 582.30 Natural substances used in conjunction with spices and other natural seasonings and flavorings.
- 582.40 Natural extractives (solvent-free) used in conjunction with spices, seasonings, and flavorings.
- 582.50 Certain other spices, seasonings, essential oils, oleoresins, and natural extracts.
- 582.60 Synthetic flavoring substances and adjuvants.
- 582.80 Trace minerals added to animal feeds.
- 582.99 Adjuvants for pesticide chemicals.

### Subpart B—General Purpose Food Additives

- 582.1005 Acetic acid.
- 582.1009 Adipic acid.
- 582.1033 Citric acid.
- 582.1057 Hydrochloric acid.
- 582.1061 Lactic acid.
- 582.1069 Malic acid.
- 582.1073 Phosphoric acid.
- 582.1077 Potassium acid tartrate.

- 582.1087 Sodium acid pyrophosphate.
- 582.1091 Succinic acid.
- 582.1095 Sulfuric acid.
- 582.1099 Tartaric acid.
- 582.1125 Aluminum sulfate.
- 582.1127 Aluminum ammonium sulfate.
- 582.1129 Aluminum potassium sulfate.
- 582.1131 Aluminum sodium sulfate.
- 582.1135 Ammonium bicarbonate.
- 582.1137 Ammonium carbonate.
- 582.1139 Ammonium hydroxide.
- 582.1141 Ammonium phosphate.
- 582.1143 Ammonium sulfate.
- 582.1155 Bentonite.
- 582.1165 Butane.
- 582.1191 Calcium carbonate.
- 582.1193 Calcium chloride.
- 582.1195 Calcium citrate.
- 582.1199 Calcium gluconate.
- 582.1205 Calcium hydroxide.
- 582.1207 Calcium lactate.
- 582.1210 Calcium oxide.
- 582.1217 Calcium phosphate.
- 582.1235 Caramel.
- 582.1240 Carbon dioxide.
- 582.1275 Dextrins.
- 582.1320 Glycerin.
- 582.1324 Glyceryl monostearate.
- 582.1355 Helium.
- 582.1366 Hydrogen peroxide.
- 582.1400 Lecithin.
- 582.1425 Magnesium carbonate.
- 582.1428 Magnesium hydroxide.
- 582.1431 Magnesium oxide.
- 582.1480 Methylcellulose.
- 582.1500 Monoammonium glutamate.
- 582.1516 Monopotassium glutamate.
- 582.1540 Nitrogen.
- 582.1585 Papain.
- 582.1613 Potassium bicarbonate.
- 582.1619 Potassium carbonate.
- 582.1625 Potassium citrate.
- 582.1631 Potassium hydroxide.
- 582.1643 Potassium sulfate.
- 582.1655 Propane.
- 582.1666 Propylene glycol.
- 582.1685 Rennet.
- 582.1711 Silica aerogel.
- 582.1721 Sodium acetate.
- 582.1736 Sodium bicarbonate.
- 582.1742 Sodium carbonate.
- 582.1745 Sodium carboxymethylcellulose.
- 582.1748 Sodium caseinate.
- 582.1751 Sodium citrate.
- 582.1763 Sodium hydroxide.
- 582.1775 Sodium pectinate.
- 582.1778 Sodium phosphate.
- 582.1781 Sodium aluminum phosphate.
- 582.1792 Sodium sesquicarbonate.
- 582.1804 Sodium potassium tartrate.
- 582.1810 Sodium tripolyphosphate.
- 582.1901 Triacetin.
- 582.1973 Beeswax.
- 582.1975 Bleached beeswax.
- 582.1978 Carnauba wax.