List of substances	Limitations
Fatty acids derived from animal and vegetable fats and oils, and salts of such acids, single or mixed, as follows:	
Aluminum	
Magnesium	
Potassium	
Sodium	
Zinc	
Fatty alcohols, straight-chain with even number carbon atoms (C_{10} or greater).	
Isobutyl stearate.	
Lanolin.	
Linoleic acid amide.	
Mineral oil	Conforming to the identity prescribed in § 178.3620 (a) or (b).
Mono-, di-, and tristearyl citrate.	
Oleic acid amide.	
Palmitic acid amide.	
Petrolatum	Conforming to the identity prescribed in § 178.3700.
Phosphoric acid, mono- and dihexyl esters, compounds with tetramethylnonylamines and C_{11-14}-alkylamines (CAS Reg. No. 80939–62–4).	For use only at levels not to exceed 0.5 percent by weight of the finished surface lubricant formulation.
Polyethylene glycol (molecular weight 300 or greater)	Mono- and diethylene glycol content not to exceed a total of 0.2 pct.
Stannous stearate.	
Stearic acid amide.	
Stearyl stearate.	
Tetrakis[methylene (3,5-di-*tert*-butyl-4-hydroxyhydrocinnamate)] methane (CAS Registry No. 6683–19–8).	For use at a level not to exceed 0.5 percent by weight of the finished surface lubricant formulation.
Triethylene glycol	Diethylene glycol content not to exceed 0.1 pct.
Wax, petroleum	Complying with § 178.3710.

(c) The substances identified in paragraph (a)(2) of this section may be used in surface lubricants used to facilitate the drawing, stamping, and forming of metallic articles from rolled foil and sheet stock provided that total residual lubricant remaining on the metallic article in the form in which it contacts food does not exceed 0.015 milligram per square inch of food-contact surface.

(d) Subject to any prescribed limitations, the quantity of surface lubricant used in the manufacture of metallic articles shall not exceed the least amount reasonably required to accomplish the intended technical effect and shall not be intended to nor, in fact, accomplish any technical effect in the food itself.

(e) The use of the surface lubricants in the manufacture of any article that is the subject of a regulation in parts 174, 175, 176, 177, 178 and § 179.45 of this chapter must comply with any specifications prescribed by such regulation for the finished form of the article.

(f) Any substance that is listed in this section and the subject of a regulation in parts 174, 175, 176, 177, 178 and § 179.45 of this chapter shall comply with any applicable specifications prescribed by such regulation.

[42 FR 14609, Mar. 15, 1977, as amended at 48 FR 238, Jan. 4, 1983; 49 FR 10113, Mar. 19, 1984; 49 FR 29579, July 23, 1984; 50 FR 36874, Sept. 10, 1985; 52 FR 10223, Mar. 31, 1987; 54 FR 6124, Feb. 8, 1989; 54 FR 24899, June 12, 1989; 56 FR 55456, Oct. 28, 1991; 57 FR 23953, June 5, 1992; 58 FR 17513, Apr. 5, 1993; 64 FR 47110, Aug. 30, 1999; 69 FR 24512, May 4, 2004]

§ 178.3930 Terpene resins.

The terpene resins identified in paragraph (a) of this section may be safely used as components of polypropylene film intended for use in contact with food, and the terpene resins identified in paragraph (b) of this section may be safely used as components of polyolefin film intended for use in contact with food;

(a) Terpene resins consisting of the hydrogenated polymers of terpene hydrocarbons obtainable from sulfate turpentine and meeting the following specifications: Drop-softening point of 118°–138 °C; iodine value less than 20.

(b) Terpene resins consisting of polymers of beta-pinene and meeting the following specifications: Acid value less than 1; saponification number less than 1; color less than 4 on the Gardner

scale as measured in 50 percent mineral spirits solution.

§ 178.3940 Tetraethylene glycol di-(2-ethylhexoate).

Tetraethylene glycol di-(2-ethylhexoate) containing not more than 22 parts per million ethylene and/or diethylene glycols may be used at a level not to exceed 0.7 percent by weight of twine as a finish on twine to be used for tying meat provided the twine fibers are produced from nylon resins complying with § 177.1500 of this chapter.

§ 178.3950 Tetrahydrofuran.

Tetrahydrofuran may be safely used in the fabrication of articles intended for packaging, transporting, or storing foods, subject to the provisions of this section.

(a) It is used as a solvent in the casting of film from a solution of polymeric resins of vinyl chloride, vinyl acetate, or vinylidene chloride that have been polymerized singly or copolymerized with one another in any combination, or it may be used as a solvent in the casting of film prepared from vinyl chloride copolymers complying with § 177.1980 of this chapter.

(b) The residual amount of tetrahydrofuran in the film does not exceed 1.5 percent by weight of film.

PART 179—IRRADIATION IN THE PRODUCTION, PROCESSING AND HANDLING OF FOOD

Subpart A [Reserved]

Subpart B—Radiation and Radiation Sources

Sec.

Subpart C—Packaging Materials for Irradiated Foods

AUTHORITY: 21 U.S.C. 321, 342, 343, 348, 373, 374.

SOURCE: 42 FR 14635, Mar. 15, 1977, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 179 appear at 70 FR 72074, Dec. 1, 2005.

Subpart A [Reserved]

Subpart B—Radiation and Radiation Sources

§ 179.21 Sources of radiation used for inspection of food, for inspection of packaged food, and for controlling food processing.

Sources of radiation for the purposes of inspection of foods, for inspection of packaged food, and for controlling food processing may be safely used under the following conditions:

(a) The radiation source is one of the following:

(1) X-ray tubes producing X-radiation from operation of the tube source at a voltage of 500 kilovolt peak or lower.

(2) Sealed units producing radiations at energy levels of not more than 2.2 million electron volts from one of the following isotopes: Americium-241, cesium-137, cobalt-60, iodine-125, krypton-85, radium-226, and strontium-90.

(3) Sealed units producing neutron radiation from the isotope Californium-252 (CAS Reg. No. 13981–17–4) to measure moisture in food.

(4) Machine sources producing X-radiation at energies no greater than 10 million electron volts (MeV).

(5) Monoenergetic neutron sources producing neutrons at energies not less than 1 MeV but no greater than 14 MeV.

(b) To assure safe use of these radiation sources:

(1) The label of the sources shall bear, in addition to the other information required by the Act:

(i) Appropriate and accurate information identifying the source of radiation.

(ii) The maximum energy of radiation emitted by X-ray tube sources.