

(e) *Exemption from certification.* Certification of this color additive is not necessary for the protection of the public health, and therefore batches thereof are exempt from the certification requirements of section 721(c) of the act.

**Subpart B—Drugs**

**§ 73.1001 Diluents in color additive mixtures for drug use exempt from certification.**

The following diluents may be safely used in color additive mixtures that are exempt from certification and which are to be used for coloring drugs, subject to the condition that each

straight color in the mixture has been exempted from certification or, if not so exempted, is from a batch that has previously been certified and has not changed in composition since certification. Such listing of diluents is not to be construed as superseding any of the other requirements of the Federal Food, Drug, and Cosmetic Act with respect to drugs, including new drugs. If a definition and specification for a particular diluent is not set forth in this subpart, the material shall be of a purity consistent with its intended use.

(a) *Ingested drugs—(1) General use.* Diluents listed in § 73.1(a) and the following:

Substances	Definitions and specifications	Restrictions
Alcohol, specially denatured .....	As set forth in 26 CFR, pt. 212 .....	As set forth in 26 CFR, pt. 211.
Cetyl alcohol .....	As set forth in N.F. XI.	
Isopropyl alcohol .....	.....	In color coatings for pharmaceutical forms, no residue.
Polyoxyethylene (20) sorbitan monostearate (Polysorbate 60).	As set forth in sec. 172.836 of this chapter.	
Polyoxyethylene (20) sorbitan tristearate (Polysorbate 65).	As set forth in sec. 172.838 of this chapter.	
Polysorbate 80 .....	As set forth in sec. 172.840 of this chapter.	
Polyvinyl-pyrrolidone .....	As set forth in sec. 173.55 of this chapter.	
Sorbitan monooleate.		
Sorbitan monostearate .....	As set forth in sec. 172.842 of this chapter.	
Sorbitan trioleate.		

(2) *Special use; inks for branding pharmaceutical forms.* Items listed in paragraph (a)(1) of this section, § 73.1(b)(1)(i), and the following:

Ethyl lactate  
 Polyoxyethylene sorbitan monolaurate (20)

(b) *Externally applied drugs.* Diluents listed in paragraph (a)(1) of this section and the following:

Substances	Definitions and specifications
Benzyl alcohol .....	As set forth in N.F. XI.
Ethyl cellulose .....	As set forth in § 172.868 of this chapter.
Hydroxyethyl cellulose.	
Hydroxypropyl cellulose	As set forth in § 172.870 of this chapter.

**§ 73.1010 Alumina (dried aluminum hydroxide).**

(a) *Identity.* (1) The color additive alumina (dried aluminum hydroxide) is a white, odorless, tasteless, amorphous

powder consisting essentially of aluminum hydroxide (Al<sub>2</sub> O<sub>3</sub> · xH<sub>2</sub> O).

(2) Color additive mixtures for drug use made with alumina (dried aluminum hydroxide) may contain only those diluents listed in this subpart as safe and suitable for use in color additive mixtures for coloring drugs.

(b) *Specifications.* Alumina (dried aluminum hydroxide) shall conform to the following specifications:

- Acidity or alkalinity: Agitate 1 gram of the color additive with 25 milliliters of water and filter. The filtrate shall be neutral to litmus paper.
- Matter insoluble in dilute hydrochloric acid, not more than 0.5 percent.
- Lead (as Pb), not more than 10 parts per million.
- Arsenic (as As), not more than 1 part per million.
- Mercury (as Hg), not more than 1 part per million.
- Aluminum oxide (Al<sub>2</sub> O<sub>3</sub>), not less than 50 percent.

(c) *Uses and restrictions.* Alumina (dried aluminum hydroxide) may be safely used in amounts consistent with good manufacturing practice to color drugs generally.

(d) *Labeling requirements.* The label of the color additive and of any mixtures prepared therefrom intended solely or in part for coloring purposes shall conform to the requirements of § 70.25 of this chapter.

(e) *Exemption from certification.* Certification of this color additive is not necessary for the protection of the public health, and therefore batches thereof are exempt from the certification requirements of section 721(c) of the act.

#### § 73.1015 Chromium-cobalt-aluminum oxide.

(a) *Identity.* The color additive chromium-cobalt-aluminum oxide is a blue-green pigment obtained by calcining a mixture of chromium oxide, cobalt carbonate, and aluminum oxide. It may contain small amounts (less than 1 percent each) of oxides of barium, boron, silicon, and nickel.

(b) *Specifications.* Chromium-cobalt-aluminum oxide shall conform to the following specifications:

Chromium, calculated as Cr<sub>2</sub>O<sub>3</sub>, 34-37 percent.  
Cobalt, calculated as CoO, 29-34 percent.  
Aluminum, calculated as Al<sub>2</sub>O<sub>3</sub>, 29-35 percent.  
Lead (as Pb), not more than 30 parts per million.  
Arsenic (as As), not more than 3 parts per million.  
Total oxides of aluminum, chromium, and cobalt not less than 97 percent.

Lead and arsenic shall be determined in the solution obtained by boiling 10 grams of the chromium-cobalt-aluminum oxide for 15 minutes in 50 milliliters of 0.5 N hydrochloric acid.

(c) *Uses and restrictions.* The color additive chromium-cobalt-aluminum oxide may be safely used for coloring linear polyethylene surgical sutures, United States Pharmacopeia (U.S.P.), for use in general surgery, subject to the following restrictions:

(1) For coloring procedure, the color additive is blended with the polyethylene resin. The mixture is heated to a temperature of 500°-550 °F. and extruded through a fixed orifice. The fila-

ments are cooled, oriented by drawing, and set by annealing.

(2) The quantity of the color additive does not exceed 2 percent by weight of the suture material.

(3) The dyed suture shall conform in all respects to the requirements of the U.S.P. XX (1980).

(4) When the sutures are used for the purpose specified in their labeling, there is no migration of the color additive to the surrounding tissue.

(5) If the suture is a new drug, an approved new drug application, pursuant to section 505 of the Federal Food, Drug, and Cosmetic Act, is in effect for it.

(d) *Labeling.* The label of the color additive shall conform to the requirements of § 70.25 of this chapter.

(e) *Exemption from certification.* Certification of this color additive is not necessary for the protection of the public health, and batches thereof are exempt from the certification requirements of section 721(c) of the act.

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#### § 73.1025 Ferric ammonium citrate.

(a) *Identity.* The color additive ferric ammonium citrate consists of complex chelates prepared by the interaction of ferric hydroxide with citric acid in the presence of ammonia. The complex chelates occur in brown and green forms, are deliquescent in air, and are reducible by light.

(b) *Specifications.* Ferric ammonium citrate shall conform to the following specifications and shall be free from impurities other than those named to the extent that such impurities may be avoided by good manufacturing practice:

Iron (as Fe), not less than 14.5 percent and not more than 18.5 percent.  
Lead (as Pb), not more than 20 p/m.  
Arsenic (as As), not more than 3 p/m.

(c) *Uses and restrictions.* Ferric ammonium citrate may be safely used in combination with pyrogallol (as listed in § 73.1375), for coloring plain and chromic catgut sutures for use in general and ophthalmic surgery subject to the following conditions: