

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

SPECIFICATION FOR

LONG TERM RETARDANT, WILDLAND FIRE,
AIRCRAFT OR GROUND APPLICATION

Add the following:

3.1.2 Non acceptable ingredients. In addition to the ingredients that may be identified in 3.1.1 as not meeting Forest Service direction the following ingredients shall not be accepted:

Ingredient

- Sodium ferrocyanide (Yellow Prussiate of Soda or YPS)
- Dichromates
- Thiourea

3.1.3 Acceptable formulations: Only formulations that contain a gum thickening to obtain a viscosity range between 100 cps and 1800 cps will be acceptable to meet Forest Service needs. The gum thickening agent must be a guar or xanthan gum, or their derivatives

Change the following as shown:

4.2.2.4. Additional Screening Data. Additional screening data containing the following information is required for thickened products:

- a. A graph of retardant viscosity versus time since mixing, at a temperature test of 70 °F (21 °C). At a minimum, include viscosity at 10 minutes, 60 minutes, 4 hours, 8 hours, 24 hours, and 48 hours after mixing.
- b. A table of retardant viscosity versus temperature of water used for mixing. Viscosity shall be measured at 10 minutes, 1 hour, and 24 hours following mixing. Temperatures of the tap water used for mixing shall be 40 °F (4 °C), 70 °F (21 °C), and 100 °F (38 °C).
- c. A table of retardant viscosity at 70 °F (21 °C), 1 hour and 24 hours following mixing, versus thickener concentration from 25.0 percent to 200.0 percent of the nominal gum concentration, in 25-percent increments
- d. A table of the effect of temperature on viscosity. Using a retardant sample prepared with 70 °F (21 °C) water and allowed to sit for 24 hours, measure the viscosity of retardant at temperatures of 40 °F (4 °C), 70 °F (21 °C), and 100 °F (38 °C).
- e. A table of hardness versus viscosity at 70 °F (21 °C) for 1 hour and 24 hours after mixing.
- f. A table of mix time and speed versus viscosity 1 hour and 24 hours after mixing.