GLYCEROL ESTER OF WOOD ROSIN
(TENTATIVE)

Prepared at the 71st JECFA (2009) and published in FAO JECFA Monographs 7 (2009), superseding specifications prepared at the 46th JECFA (1996) and published in the Combined Compendium of Food Additive Specifications, FAO JECFA Monographs 1 (2005). A group ADI of 0 – 25 mg/kg bw for glycerol ester of gum rosin and glycerol ester of wood rosin was established at the 71st JECFA (2009).

Information required on batches of commercially available products:

- *representative infrared spectra, with identification of relevant peaks and conditions of analysis. Clean spectra are also required*
- *identification of the main resin acids with their relative proportions, obtained with updated chromatographic techniques*
- *other data or information useful for distinguishing among the glycerol esters of wood, gum and tall oil rosins*

SYNONYMS INS No. 445

DEFINITION Glycerol ester of wood rosin is a complex mixture of tri- and diglycerol esters of resin acids from wood rosin obtained by the solvent extraction of aged pine stumps followed by a liquid-liquid solvent refining process. The refined wood rosin is composed of approximately 90% resin acids and 10% neutrals (non-acidic compounds). The resin-acid fraction is a complex mixture of isomeric diterpenoid monocarboxylic acids having the typical empirical formula $C_{20}H_{30}O_2$, of which the main component is abietic acid. The substance is purified by steam stripping or by countercurrent steam distillation.
These specifications do not cover substances derived from gum rosin, an exudate of living pine trees, and substances derived from tall oil rosin, a by-product of kraft (paper) pulp processing.

C.A.S. number 8050-30-4

DESCRIPTION Hard, yellow to pale amber-coloured solid

FUNCTIONAL USES Emulsifier, density adjustment agent for flavouring oils in beverages, stabilizer, chewing gum base component

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Insoluble in water, soluble in acetone

Infrared absorption (Vol. 4) The infrared spectrum of a thin film of the sample (potassium bromide plate) corresponds with the typical infrared spectrum.

Infrared spectra from commercially available products are requested.

Sulfur test	Negative Weigh 40-50 mg of sample into a test tube and add 1- 2 drops of a 20% (w/v) solution of sodium formate. Place a strip of lead acetate test paper over the mouth of the test tube. Heat the tube until fumes are formed that contact the test paper. Continue heating for 2-5 min. The formation of a black spot of lead sulfide indicates the presence of sulfur-containing compounds. (Detection Limit: 50 mg/kg sulfur).
PURITY	
Specific gravity (Vol. 4)	d^{20}_{25}: Not less than 0.935 (50% solution in d-limonene)
Ring and ball softening point (Vol. 4)	Not less than 82° (see "Specific Methods, Glycerol Esters of Rosins")
Acid value (Vol. 4)	Between 3 and 9 (see "Specific Methods, Fats, Oils, and Hydrocarbons")
Lead (Vol. 4)	Not more than 1 mg/kg Determine using an AAS/ICP-AES technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on principles of methods described in Volume 4 (under "General Methods, Metallic Impurities").