

**CLASS 530, CHEMISTRY: NATURAL RESINS OR DERIVATIVES; PEPTIDES OR PROTEINS; LIGNINS OR REACTION PRODUCTS THEREOF**

**SUBCLASSES**

**200 NATURAL RESINS OR DERIVATIVES (E.G., WOOD OR PINE TAR; CATIVO RESIN DERIVATIVES, ETC.):**

This subclass is indented under Class 260, subclass 1. Natural resin derivatives which are not pure compounds, and processes of treating natural resins or derivatives.

- (1) Note. Natural resins are water-insoluble mixtures of compounds derived from trees, especially conifers. Many of the compounds present in natural resins have a hydroaromatic structure. These compounds are often recovered as mixtures of isomeric carboxylic acids, such as abietic and pimaric acids, which occur in rosin. The resins occur in nature in solvent-free form, such as fossil coal or copal resins, wood rosin in old pine tree stumps, etc., or in the form of tree sap, such as pine oleoresin, where they are dissolved in terpenic hydrocarbons, such as spirits of turpentine. Another major source of natural resin is papermaking waste from which a solution of rosin in mixed fatty acids, known as tall oil, is recovered.
- (2) Note. See search this class, subclass note below for a description of the constituents of and types of rosin.
- (3) Note. Tall oil, which is a liquid, is provided for here, along with its constituents and derivatives, because of significant resin acid content (34% - 40%). See search this class, subclass note below for description of tall oil and (3) Note for tall oil fatty acids.
- (4) Note. Some of the natural resins encompassed by this and indented subclasses include, but are not limited to: wood, gum and tall oil rosin; wood or pine tar or pitch; shellac; copals from various

sources, both recent and fossil, such as Congo, Manila, etc.; amber; dammar; kauri; coal resin; gum accroides; sandarac; cativo resin; etc.

- (5) Note. This and indented subclasses (200+) provide for the production of mixtures of compounds from natural resins, whether or not the individual compounds have a known chemical structure.
- (6) Note. The production of a pure resin acid or its derivative of known chemical structure from natural resins is classified in the class and subclass providing for the compound produced.
- (7) Note. Compositions comprising natural resin or its derivative, together with another component, and having a known utility, are classified in the appropriate composition class.
- (8) Note. The rules for determining Class placement of the Original Reference (OR) for claimed chemical compositions are set forth in the Class Definition of Class 252 in the section LINES WITH OTHER CLASSES AND WITHIN THIS CLASS, subsection COMPOSITION CLASS SUPERIORITY, which includes a hierarchical ORDER OF SUPERIORITY FOR COMPOSITION CLASSES.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

- 205, (1) Note, for description of tall oil and (3) Note for tall oil fatty acids.  
210, (1) Note, for a description of the constituents of and types of rosin.

**SEE OR SEARCH CLASS:**

- 106, Compositions: Coating or Plastic, for compositions wherein a natural resin or tall oil is utilized.  
117, Single-Crystal, Oriented-Crystal, and Epitaxy Growth Processes; Non-Coating Apparatus Therefor, for processes for growing therein-defined single-crystal of all types of materials, including inorganic or organic.

- 162, Paper Making and Fiber Liberation, for processes of liberating cellulosic fibers which include the recovery of an organic by-product.
- 506, Combinatorial Chemistry Technology: Method, Library, Apparatus, for a chemical or biological library or a process of creating said library.
- 520, Synthetic Resins or Natural Rubbers, including the classes which are part of the 520 series, for synthetic resin compositions wherein a natural resin or tall oil is utilized.
- 536, Organic Compounds, for gums which are water-soluble highly branched polysaccharides found in exudations of plants.
- 201 Shellac containing starting material used in process, or product thereof (e.g., lac, stick-lac, seedlac, flake shellac, bleached shellac, etc.):**  
This subclass is indented under subclass 200. Processes wherein the starting material is shellac, or a shellac-containing substance, or products of such processes.
- (1) Note. Included herein are starting materials wherein the shellac has been previously modified, e.g., by bleaching, formation of a derivative, etc.
- 202 Cut wood starting material used in process, or product thereof (e.g., using pine stumps, chips, bark, etc., as starting material):**  
This subclass is indented under subclass 200. Processes wherein the starting material is cut wood, or products of such processes.
- (1) Note. A major product of the processes under this subclass is wood rosin.
- (2) Note. See the search note below for description of the constituents of and types of rosin.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
210, (1) Note, for a description of the constituents of and types of rosin.
- 203 Plant sap or fossil starting material used in process, or product thereof (e.g., using copal, coal, amber, dammar, etc., as starting material):**  
This subclass is indented under subclass 200. Processes wherein the starting material is plant sap or a fossilized substance, or products of such processes.
- (1) Note. The starting materials include, but are not limited to: copals from various sources, e.g., Congo, Manila, Pontianac, etc.; coal which contains admixtures of resin, such as Utah; amber; dammar; kauri; gum accroides; etc.
- 204 Pine oleoresin starting material used in process, or product thereof (e.g., using gum turpentine, pine gum, pine resin, etc., as starting material):**  
This subclass is indented under subclass 203. Processing wherein the starting material is pine oleoresin, or products of such processes.
- (1) Note. Pine oleoresin is the fresh sap of living pine trees and is variously referred to in the trade as gum turpentine, pine gum, pine resin, etc.
- (2) Note. A major product of the processes under this subclass is gum rosin.
- (3) Note. See (1) Note under subclass 210 for description of the constituents of and types of rosin.
- 205 Recovery of tall oil or derivatives from papermaking waste, purification of tall oil, or separation of components of tall oil; or product thereof (e.g., separation of rosin, fatty acids, sterols, etc.; decolorizing, etc.):**  
This subclass is indented under subclass 200. Processes wherein: (1) tall oil or a derivative thereof is recovered from papermaking waste; (2) one or more components are separated from tall oil; (3) tall oil is purified; or products of such processes.
- (1) Note. Tall oil is a by-product of the wood pulp industry and is usually recovered from pine wood "black liquor" of the sulfate or kraft paper processes. A typical composition of tall oil includes 50-60% fatty acids (e.g., oleic, linoleic, etc.), 34-40% rosin acids, and 5-10%





































































































































