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21 Author

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22 Date of Revision

4 May 2017.

Colophony

1 Nonproprietary Names

BP: Colophony

JP: Rosin

PhEur: Colophony

2 Synonyms

Abietic anhydride; colofonia; coloph; colophane; colophonium; colophony; disproportionated rosin; gum rosin; pine rosin; resin terebinthinae; rosin; wood rosin; yellow resin.

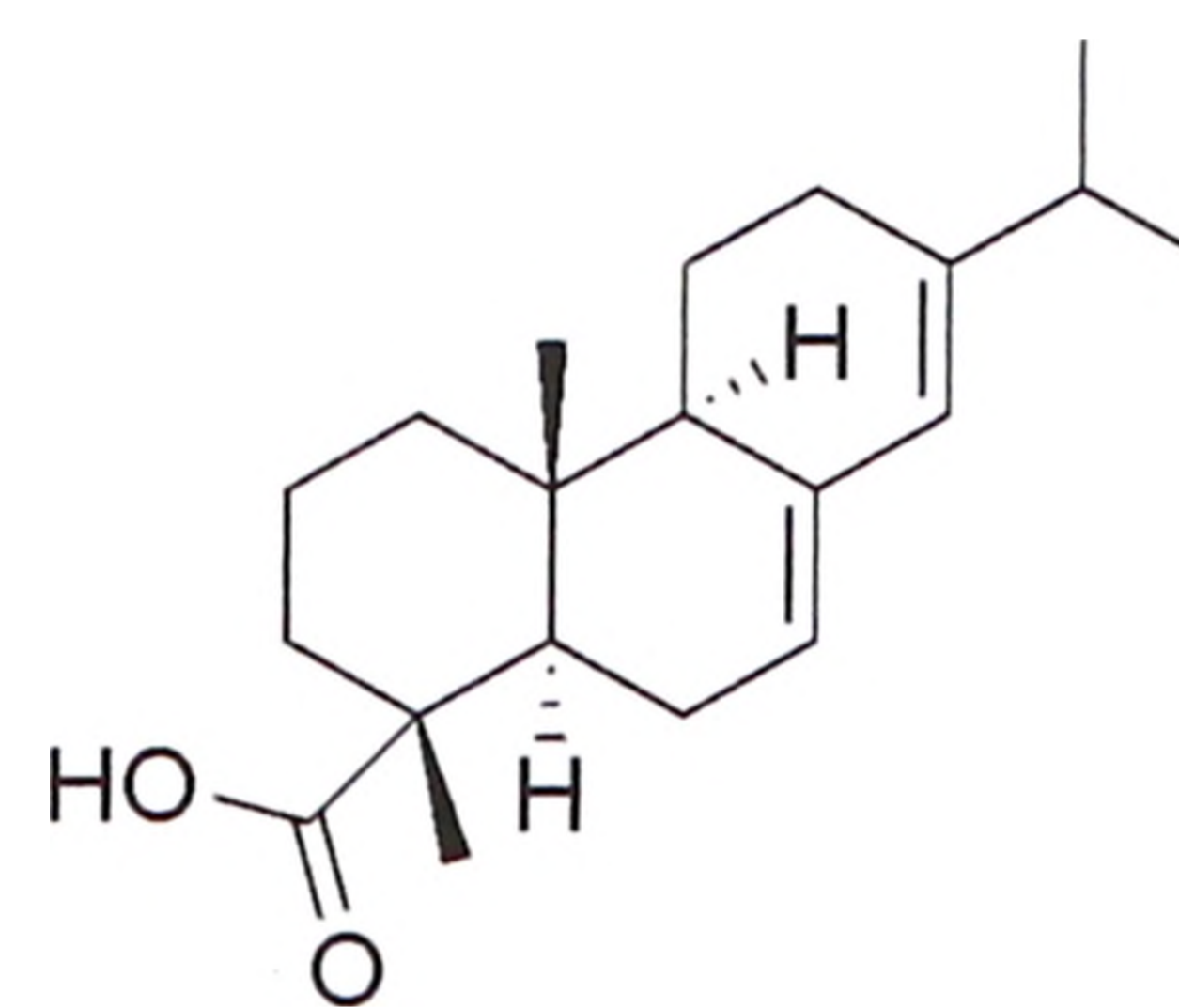
3 Chemical Name and CAS Registry Number

(2*R*,3*S*,4*S*,5*R*,6*R*)-2-(Hydroxymethyl)-6-[(*E*)-3-phenylprop-2-enoyl]oxane-3,4,5-triol [8050-09-7] and [8050-10-0]

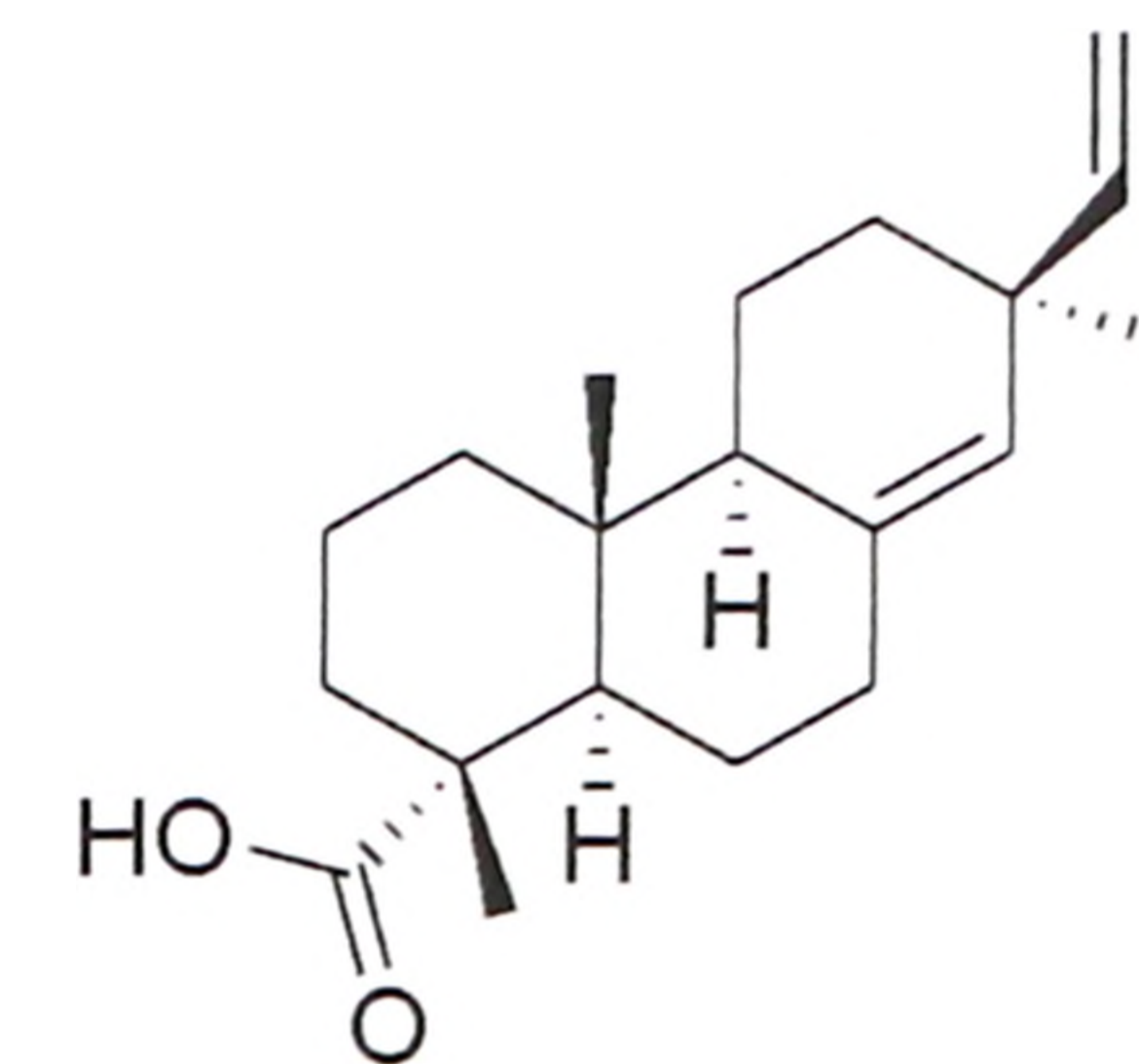
4 Empirical Formula and Molecular Weight

Colophony is a mixture composed of approximately 90% acids. Rosin acids are monocarboxylic and have a typical molecular formula of $C_{20}H_{30}O_2$. The acids are diterpenes of two main types: abietic with conjugated double bonds and pimaric with nonconjugated double bonds. The molecular weight of abietic and pimaric acids is 302.45. The 10% other components include a mixture of dihydroabietic acid ($C_{20}H_{32}O_2$) with a molecular weight of 302.45 and dehydroabietic acid ($C_{20}H_{28}O_2$) with a molecular weight of 300.44.

5 Structural Formula



Abietic acid



Pimaric acid

6 Functional Category

Coating agent; emulsifying agent; film-forming agent; microencapsulating agent; modified-release agent; tablet and capsule binder.

7 Applications in Pharmaceutical Formulation or Technology

Colophony is used as a binder and coating agent in both capsules and tablets for oral delivery. It has also been used to prepare microcapsules for the controlled release of both aspirin⁽¹⁾ and diltiazem.⁽²⁾

8 Description

Colophony occurs as translucent, pale yellow to dark amber, angular and irregularly shaped, brittle, glassy fragments of different sizes, with surfaces that bear conchoidal markings. Colophony has a slight turpentine odor and taste.

Colophony has been classified into various color grades starting with D (very dark red) through E, F, G, H, I, K, M, N (golden amber), WG, WW, and finally X (pale yellow), according to the United States Department of Agriculture's standard method.

See also Sections 10 and 17.