

**A. INGREDIENT NAME:**

**GUAIACOL**

**B. Chemical Name:**

Guajacol, Guaiacol, Guaicoo, Guajakol (CZECH), O-Hydroxyanisole, 2-Hydroxyanisole, 1-Hydroxy-2-Methoxybenzene, O-Methoxyphenol, 2-Methoxyphenol, Methylcatechol, Pyroguaiac Acid

**C. Common Name:**

Austral: Waterbury's Compound, Belg: Baume Dalet, Canada: Cre-Rectal, etc. Various names from different countries. Please see file.

**D. Chemical grade or description of the strength, quality, and purity of the ingredient:**

|        | <i>(Specifications)</i> | <i>(Results)</i> |
|--------|-------------------------|------------------|
| Assay: | 99.5% min.              | 99.7%            |

**E. Information about how the ingredient is supplied:**

White or slightly yellow crystal mass or colorless to yellowish, very refractive liquid, characteristic odor, darkens to exposure to air and light.

**F. Information about recognition of the substance in foreign pharmacopeias:**

Arg., Braz., Chil., Fr., It., Mex., Port., Roum., Span., and Swiss.

**G. Bibliography of available safety and efficacy data including peer reviewed medical literature:**

**H. Information about dosage forms used:**

Expectorant

1998-3454\_02-28-BDL15

**I. Information about strength:**

0.3-0.6ml

**J. Information about route of administration:**

Orally

**K. Stability data:**

Boiling Point: 205C

Melting Point: 27C to 29C

**L. Formulations:**

**M. Miscellaneous Information:**



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**TITLE:** [The clinico-pathological studies on the influence of immediate root canal filling after formalin guaiacol was applied on the extirpated pulp surface]

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**AUTHOR AFFILIATION:** Ohu University Graduate School of Dentistry.

**SOURCE:** Ohu Daigaku Shigakushi 1990 Nov;17(3):245-82

**NLM CIT. ID:** 92075181

**ABSTRACT:** The method of immediate root canal filling following vital pulp extirpation involves many problems to be solved clinically. Therefore, the present study was performed to increase the clinical usefulness by applying formalin medicine in the root canal before immediate root canal filling after vital pulp extirpation. Group 1 (the group of applying formalin tricresol or formalin guaiacol on the intentionally exposed pulp tissue) Group 2 (pulp extirpation). This study is based upon 95 human permanent teeth with noninfected pulps in patients ranging in age from 16 to 43 years. Under local anesthesia the experimental teeth were isolated with cotton rolls. The pulp was intentionally exposed during the preparation of the Ingle's cavity with diamond instruments mounted on a high speed air turbine. The cavity and exposed pulp surface were cleaned with Neo-cleaner (10% Hypochlorite) and oxydol, and then dried using an absorbent material. One of the experimental medicines, which had been saturated into phi 2mm cotton pellet, was applied on the exposed pulp tissue. The cavity was filled with gutta-percha and amalgam. Under local anesthesia, the pulp was intentionally exposed in the same way as mentioned above. After removal of pulp tissue, root canals were cleaned with oxydol. Root canals were filled with Calvital (CV) in 15 cases. Following insertion of sterilized paper point soaked in the solution of formalin guaiacol (FG) or formalin tricresol (FC) for 5 minutes, root canal filling with Calvital was carried out in 20 cases. The experimental teeth were clinically observed at various intervals, and then extracted. After fixation in 10% formalin solution, the teeth were decalcified using nitric acid and embedded in celloidin. The serial sections were stained with hematoxylin and eosin and observed histopathologically. Group 1. 1. Kinds of clinical discomfort observed in this investigation were as follows. FG: Spontaneous pain (25.0%), Percussion discomfort (5.0%). FC: Spontaneous pain (35.0%), Percussion discomfort (35.0%). 2. Clinical results were as follows. FG: 14 cases (70.0%) out of 20 were evaluated as good, 6 cases (30.0%) as fairly good, and none as bad. FC: 11 cases (55.0%) out of 20 were evaluated as good, 9 cases (45.0%) as fairly good, and none as bad. 3. Histopathological changes observed in this investigation were as follows. 1) Hyperemia, 2) Hemorrhage, 3) Round cell infiltration, 4) Suppurative inflammation, 5)

Coagulation necrosis, 6) Atrophy, 7) Cicatrization. Group 2. 1. Kinds of clinical discomfort observed in this investigation were as follows. CV: Spontaneous pain (20.0%), Percussion discomfort (20.0%). FG: Spontaneous pain (30.0%), Percussion discomfort (15.0%). FC: Spontaneous pain (30.0%), Percussion discomfort (30.0%). 2. Clinical results were as follows.

**MAIN MESH** Dental Pulp/\*DRUG EFFECTS  
**SUBJECTS:** \*Dental Pulp Exposure  
Pulpectomy/\*METHODS  
Root Canal Filling Materials/\*ADVERSE EFFECTS  
Root Canal Obturation/\*METHODS

**ADDITIONAL MESH** Adolescence  
Adult  
**SUBJECTS:** Calcium Hydroxide/ADVERSE EFFECTS  
English Abstract  
Formaldehyde/ADVERSE EFFECTS  
Guaiacol/ADVERSE EFFECTS  
Human

**PUBLICATION JOURNAL ARTICLE**

**TYPES:**  
**LANGUAGE:** Jpn  
**REGISTRY** 0 (Root Canal Filling Materials)  
**NUMBERS:** 1305-62-0 (Calcium Hydroxide)  
50-00-0 (Formaldehyde)  
90-05-1 (Guaiacol)

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## **GUIACOL**

Oral LD50 in rodents is approx. 600 mg/kg.

It has caused eye, skin, G. I. and respiratory irritation.

Toxicological properties have not been fully described. May have caused sister chromatid exchange. Fatal to foeti when injected into pregnant rats, and in male animals, it produced serious disorders of the testes and destruction of germinal tissues.

Can cause muscle weakness, paralysis of vasomotor centers and CV collapse. Doses 2g or more can produce death in an adult. May be more hazardous to humans than lower animals.

It is used as a disinfectant like phenol and is an expectorant.



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