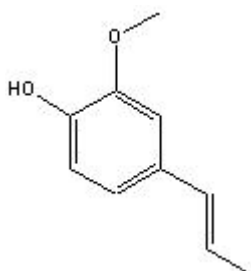


TECHNICAL INFORMATION

Catalog Number: 151358

Isoeugenol

Structure:

**Molecular Formula:** C₁₀H₁₂O₂**Molecular Weight:** 164.22**CAS # :** 97-54-1**Note:** This is a mixture of cis and trans isomers**Physical Description:** clear, colorless to pale yellow viscous liquid**Density:** Approximately 1.08 g/ml**Synonyms:** 1-Hydroxy-2-methoxy-4-propenylbenzene; 4-Hydroxy-3-methoxy-1-propenylbenzene; 2-Methoxy-4-propenylphenol; 4-Propenylguaiacol; 2-Methoxy-4-(1-propenyl)phenol**Solubility:** Soluble in fixed oils, propylene glycol; very slightly soluble in water; miscible in alcohol and ether; insoluble in glycerin**Description:** A phenol derivative. A contact sensitizer; not a respiratory sensitizer.⁴ Used in the production of vanillin.^{1,8} Isoeugenol may act as a sensitizer by direct oxidation to the p-quinone methide mechanism.³ A phenolic antioxidant which was found to be more active against cisplatin-induced cytotoxicity in vero cells as well as in rat renal cortical slices than eugenol and dehydrozingerone.⁷ A powerful inhibitor of the lipid peroxidation system.⁹

References:

- Merck Index, **12th Ed.**, No. 5186.
- Atsumi, T., et al., "Cytotoxicity and radical intensity of eugenol, isoeugenol or related dimers." *Anticancer Res.*, **v. 20:4**, 2519-2524 (2000).
- Bertrand, F., et al., "Skin sensitization to eugenol and isoeugenol in mice: possible metabolic pathways involving ortho-quinone and quinone methide intermediates." *Chem. Res. Toxicol.*, **v. 10:3**, 335-343 (1997).
- Hilton, I., et al., "Evaluation of the sensitizing potential of eugenol and isoeugenol in mice and guinea pigs." *J. Appl. Toxicol.*, **v. 16:5**, 459-464 (1996).
- Johansen, J.D., Andersen, K.E. and Menne, T., "Quantitative aspects of isoeugenol contact allergy assessed by use and patch tests." *Contact Dermatitis*, **v. 34:6**, 414-418 (1996).
- Juhasz, L., Kurti, L. and Antus, S., "Simple synthesis of benzofuranoid neolignans from Myristica fragrans." *J. Nat. Prod.*, **v. 63:6**, 866-870 (2000).
- Rao, M., Kumar, M.M. and Rao, M.A., "In vitro and in vivo effects of phenolic antioxidants against cisplatin-induced nephrotoxicity." *J. Biochem. (Tokyo)*, **v. 125:2**, 383-390 (1999).
- Shimoni, E., Ravid, U. and Shoham, Y., "Isolation of a Bacillus sp. capable of transforming isoeugenol to vanillin." *J.*

Biotechnol., v. **78:1**, 1-9 (2000).

– Uchida, M., et al., "Antioxidative effect of sesamol and related compounds in lipid peroxidation." *Biol. Pharm. Bull.*, v. **19:4**, 623-626 (1996).

– Verrier, A.C., Schmitt, D. and Staquet, M.J., "Fragrance and contact allergens in vitro modulate the HLA-DR and E-cadherin expression on human epidermal Langerhans cells." *Int. Arch. Allergy Immunol.*, v. **120:1**, 56-62 (1999).

– White, I.R., et al., "Isoeugenol is an important contact allergen: can it be safely replaced with isoeugenyl acetate?" *Contact Dermatitis*, v. **41:5**, 272-275 (1999).