



## Product Information Sheet

### G3574 Guaiacol

Synonyms: 2-methoxyphenol  
CAS: 90-05-1  
Formula:  $C_7H_8O_2$   
Mol. Weight: 124.14

#### Properties

Form: Liquid @ Room Temperature  
Appearance: Clear, Colorless to Slight Yellow or Pink  
Solubility: Miscible with Methanol  
Application: Colorimetric Assay, Seed Testing  
Storage Temp: Room Temperature  
Typical Working Concentration: Varies with application, should be determined by end user.  
Other Notes: Light & Air Sensitive

#### Application Notes

Guaiacol is commonly used in colorimetric assays to measure peroxidase enzyme activity. Initially colorless, guaiacol undergoes polymerization in the presence of a peroxidase and  $H_2O_2$  to form a brown compound known as tetraguaiacol which can be measured spectrophotometrically at roughly 470 nm (Johannes, 2006; Doerge, 1997; Balešević-Tubić, 2011).

Guaiacol has also been documented to detect *Helminthosporium oryzae* and *Trichoconis padwickii* in rice seeds when incorporated into an agar medium with streptomycin (prod # S739 or S7739) by staining the surrounding medium red in the presence of the fungus (Kulik, 1975). Medium components according to Kulik (1975): 0.125g guaiacol, 5g agar & 0.5g streptomycin (added after autoclaving) per liter of water. For more information on this method, see Kulik reference below.

In soybean seed testing, guaiacol separates different cultivars based on high and low seed coat peroxidase activity. The level of peroxidase activity of the seed coat is based on the color change of the guaiacol (Schmitz, 1997).

#### References

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