

## Thymol Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)

### [ Product Information ]

**Name:** Thymol

**Catalog No.:** CFN93010

**Cas No.:** 89-83-8

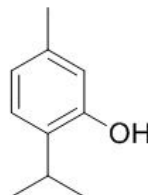
**Purity:** >=98%

**M.F:** C<sub>10</sub>H<sub>14</sub>O

**M.W:** 150.22

**Physical Description:** Powder

**Synonyms:** 5-Methyl-2-(1-methylethyl)phenol; 2-Isopropyl-5-methylphenol.



### [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Others.

### [ Source ]

The herbs of *Thymus serpyllum* L.

### [ Biological Activity or Inhibitors ]

Thymol, carvacrol and 6-gingerol possess useful antioxidant properties and may become important in the search for 'natural' replacements for 'synthetic' antioxidant food additives.<sup>[1]</sup>

The essential oil of *L. sidoides* and its major components thymol and carvacrol exhibit potent antimicrobial activity against the organisms tested with minimum inhibitory concentrations ranging from 0.625 to 10.0 mg/mL, the most sensitive microorganisms are *C. albicans* and *Streptococcus mutans*.<sup>[2]</sup>

Thymol has insecticidal and repellent activities against *Anopheles stephensi*.<sup>[3]</sup>

Thymol possesses anti-hepatotoxic activity, it prevents the CCl<sub>4</sub>-induced prolongation in pentobarbital sleeping time confirming hepatoprotectivity.<sup>[4]</sup>

Thymol is a positive allosteric modulator of human GABA<sub>A</sub> receptors and a homo-oligomeric GABA receptor from *Drosophila melanogaster*.<sup>[5]</sup>

The thyme essential oil possesses a wide range spectrum of fungicidal activity, the vaporous phase of the oil exhibits long-lasting suppressive activity on moulds from damp dwellings.<sup>[6]</sup>

Thymol has anti-inflammatory activity, it has inhibitory effect on the release of human neutrophil elastase.<sup>[7]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[8]</sup>**

Mobile phase: Acetonitrile-H<sub>2</sub>O=35:65 ;

Flow rate: 1.5 ml/min;

Column temperature: 40 °C;

The wave length of determination: 278 nm.

## **[ Storage ]**

2-8°C, Protected from air and light, refrigerate or freeze.

## **[ References ]**

- [1] Aeschbach R, Löliger J, Scott B C, *et al. Food Chem. Toxicol.* , 1994, 32(1):31-6.
- [2] Botelho M A, Nogueira N A, Bastos G M, *et al. Braz. J. Med. Biol. Res.* 2007, 40(3): 349-56.
- [3] Pandey S K, Upadhyay S, Tripathi A K. *Parasitol. Res.*, 2009, 105(2):507-12.
- [4] Janbaz K H, Saeed S A, Gilani A H. *Pakistan Journal of Biological Sciences*, 2003, 6(5):448-51.
- [5] Priestley C M, Williamson E M, Wafford K A, *et al. Brit. J. Pharmacol.*, 2003, 140(8): 1363-72.
- [6] Klaric M, Kosalec I, Mastelic J, *et al. Lett. Appl. Microbiol.*, 2007, 44(1):36-42.
- [7] Braga P C, Dal S M, Culici M, *et al. Pharmacology*, 2006, 77(3):130-6.
- [8] Angelo T, Pires F Q, Gelfuso G M, *et al. J. Chromatogr. B* , 2016, 1022:81-6.

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