

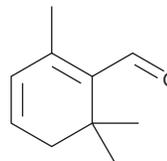
# PRODUCT INFORMATION



## Safranal

Item No. 31399

CAS Registry No.: 116-26-7  
Formal Name: 2,6,6-trimethyl-1,3-cyclohexadiene-1-carboxaldehyde  
MF: C<sub>10</sub>H<sub>14</sub>O  
FW: 150.2  
Purity: ≥98%  
UV/Vis.: λ<sub>max</sub>: 230, 310 nm  
Supplied as: A neat oil  
Storage: -20°C  
Stability: ≥4 years  
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Safranal is supplied as a neat oil. A stock solution may be made by dissolving the safranal in the solvent of choice, which should be purged with an inert gas. Safranal is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of safranal in these solvents is approximately 30 mg/ml.

### Description

Safranal is a monoterpene that has been found in *C. sativus* and has diverse biological activities, including microtubule polymerization inhibitory, cancer cell growth inhibitory, and antioxidant properties.<sup>1-4</sup> It decreases microtubule polymerization in a cell-free assay (IC<sub>50</sub> = 72.19 μM) and inhibits the growth of HeLa cells (IC<sub>50</sub> = 95 μM).<sup>1,2</sup> Safranal (145.5, 363.75, and 727.5 mg/kg) reduces the levels of thiobarbituric acid reactive substances (TBARS) and malondialdehyde (MDA) in the hippocampus in a rat model of global cerebral ischemia.<sup>3</sup> It also reduces convulsions induced by pentylenetetrazole (Item No. 18682) in mice.<sup>4</sup>

### References

1. Naghshineh, A., Dadras, A., Ghalandari, B., *et al.* Safranal as a novel anti-tubulin binding agent with potential use in cancer therapy: An in vitro study. *Chem. Biol. Interact.* **238**, 151-160 (2015).
2. Cheriyaundath, S., Choudhary, S., and Lopus, M. Safranal inhibits HeLa cell viability by perturbing the reassembly potential of microtubules. *Phytother. Res.* **32(1)**, 170-173 (2018).
3. Hosseinzadeh, H. and Sadeghnia, H.R. Safranal, a constituent of *Crocus sativus* (saffron), attenuated cerebral ischemia induced oxidative damage in rat hippocampus. *J. Pharm. Pharm. Sci.* **8(3)**, 394-399 (2005).
4. Hosseinzadeh, H. and Talebzadeh, F. Anticonvulsant evaluation of safranal and crocin from *Crocus sativus* in mice. *Fitoterapia* **76(7-8)**, 722-724 (2005).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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