

# Details information, Uses, Dosing, Molecular structure of

## **Zaffronel**®

# **Description of Zaffronel:**

Zaffronel®, Saffron Extract 2% Safranal, is a natural extract derived from the red stigmas of Saffron (Crocus sativus ,L) flowers. Saffron contains a variety of naturally occurring active plant constituents, including safranal, picrocrocin and crocin. Saffron has a long history as a traditional medicine. Research on Saffron Extract is focused on the plant's active constituents and potential health benefits. Saffron is the world's most expensive spice. Native to southwest Asia, it was first cultivated in Greece and is currently grown in many countries worldwide. Each Saffron flower contains three vivid crimson stigmas. When harvested and dried, the stigmas are used as a seasoning and coloring agent.

Saffron contains more than 150 volatile and aroma-yielding compounds, along with many nonvolatile active components. The bitter glucoside picrocrocin is responsible for saffron's flavor. Safranal, a volatile oil, gives saffron much of its distinctive aroma.

# Scientific Name(s):

Crocus sativus L.Family: Iridaceae

# Common Name(s):

Saffron, Za'faran, Azafran crocus

### Uses:

Saffron has widespread traditional uses. Studies have demonstrated efficacy in mild to moderate depression, as well as cognitive properties to provide an overall positive state of mental health.

## **Dosing:**

A dosage of 30 mg daily in 2 divided doses has been investigated for the treatment of mild to moderate depression and 20 mg daily suggested for premenstrual syndrome. Doses of up to 5g/day of saffron are thought to be safe.



## Safranal

#### **IUPAC** name

2,6,6-trimethyl-1,3-cyclohexadiene-1-carboxaldehyde

Identifiers		
CAS number		116-26-7
PubChem		61041
ChemSpider		55000
UNII		4393FR07EA
ChEBI		CHEBI:53169
<u>Jmol</u> -3D images		lmage 1

#### **SMILES**

 $O=C\setminus C1=C(\setminus C=C/CC1(C)C)C$ 

InChl

InChI=1S/C10H14O/c1-8-5-4-6-10(2,3)9(8)7-11/h4-5,7H,6H2,1-3H3

Key: SGAWOGXMMPSZPB-UHFFFAOYSA-N

InChI=1/C10H14O/c1-8-5-4-6-10(2,3)9(8)7-11/h4-5,7H,6H2,1-3H3

Key: SGAWOGXMMPSZPB-UHFFFAOYAY

Properties		
Molecular formula	C <sub>10</sub> H <sub>14</sub> O	
Molar mass	150.21 g/mol	
Density	0.9734 g/cm³	
Boiling point	70 °C at 1 mmHg	

Except where noted otherwise, data are given for materials in their <u>standard state</u>(at 25°C (77°F), 100kPa)



#### References:

- 1. Hosseinzadeh H, Talebzadeh F (December 2005). "Anticonvulsant evaluation of safranal and crocin from Crocus sativus in mice". *Fitoterapia*76(7–8): 722–4. doi:10.1016/j.fitote.2005.07.008. PMID 16253437.
- Hosseinzadeh H, Sadeghnia HR (April 2007). "Protective effect of safranal on pentylenetetrazol-induced seizures in the rat: involvement of GABAergic and opioids systems". *Phytomedicine* 14 (4): 256–62.doi:10.1016/j.phymed.2006.03.007.PMID 16707256.
- 3. Hosseinzadeh H, Sadeghnia HR (2005). "Safranal, a constituent of Crocus sativus (saffron), attenuated cerebral ischemia induced oxidative damage in rat hippocampus". *Journal of Pharmacy & Pharmaceutical Sciences* 8(3): 394–9. PMID 16401389.
- **4.** Assimopoulou AN, Sinakos Z, Papageorgiou VP (November 2005). "Radical scavenging activity of Crocus sativus L. extract and its bioactive constituents". *Phytotherapy Research* 19(11): 997–1000. doi:10.1002/ptr.1749.PMID 16317646.
- 5. "Crocin, safranal and picrocrocin from saffron (Crocus sativus L.) inhibit the growth of human cancer cells in vitro". *Cancer Letters* 100 (1–2): 23–30. <u>doi</u>:10.1016/0304-3835(95)04067-6. <u>PMID</u> 8620447.
- **6.** Hosseinzadeh H, Karimi G, Niapoor M (2004). "Antidepressant effect of *Crocus sativus* L. stigma extracts and their constituents, crocin and safranal, in mice". *Acta Horticulturae* 650: 435–45.
- 7. Akhondzadeh S, Fallah-Pour H, Afkham K, Jamshidi AH, Khalighi-Cigaroudi F (September 2004). "Comparison of Crocus sativus L. and imipramine in the treatment of mild to moderate depression: A pilot double-blind randomized trial ISRCTN45683816". *BMC Complementary and Alternative Medicine* 4: 12. <u>doi</u>:10.1186/1472-6882-4-12. <u>PMC</u> 517724. <u>PMID</u> 15341662.
- 8. "List of Chemicals". sun.ars-grin.gov. Retrieved 2008-03-02. [unreliable source?]
- 9. Yan JH, Tang KW, Zhong M, Deng NH (November 2002). "[Determination of chemical components of volatile oil from Cuminum cyminum L. by gas chromatography-mass spectrometry]". *Se Pu* (in Chinese) 20 (6): 569–72. PMID 12683011.
- Ramin Rezaee, Hossein Hosseinzadeh (January 2013). "[Safranal: From an Aromatic Natural Product to a Rewarding Pharmacological Agent]". *Iranian Journal of Basic Medical Sciences* (in English) 16 (1): 12– 26. PMC 3637901. PMID 23638289.