

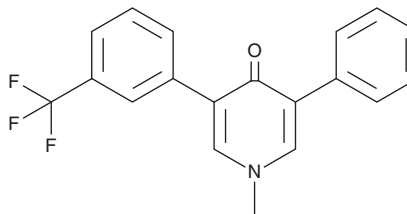
# PRODUCT INFORMATION



## Fluridone

Item No. 33966

**CAS Registry No.:** 59756-60-4  
**Formal Name:** 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-4(1H)-pyridinone  
**MF:** C<sub>19</sub>H<sub>14</sub>F<sub>3</sub>NO  
**FW:** 329.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 236 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Fluridone is supplied as a solid. A stock solution may be made by dissolving the fluridone in the solvent of choice, which should be purged with an inert gas. Fluridone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of fluridone in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Fluridone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fluridone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Fluridone has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Fluridone is an herbicide.<sup>1-4</sup> It inhibits phytoene desaturase ( $K_i = 0.03 \mu\text{M}$ ), an enzyme involved in carotenoid biosynthesis.<sup>1</sup> Fluridone (50 and 100  $\mu\text{M}$ ) decreases  $\beta$ -carotene (Item No. 16837) levels and induces accumulation of phytofluene and phytoene in *T. aestivum* seedlings grown in the dark.<sup>2</sup> It reduces levels of the plant hormone abscisic acid (Item No. 10073) in hydrated and dehydrated *V. faba* leaves when used at a concentration of 10  $\mu\text{M}$ .<sup>3</sup> Fluridone is cytotoxic to the cyanobacterium *Anacystis nidulans* ( $\text{LC}_{50} = 0.125 \mu\text{M}$ ) and has acute toxicity against several species of invertebrates and fish (median  $\text{LC}_{50}\text{s} = 4.3$  and 10.4 mg/L, respectively).<sup>1,4</sup> Formulations containing fluridone have been used as aquatic herbicides.

### References

1. Chamovitz, D., Sandmann, G., and Hirschberg, J. Molecular and biochemical characterization of herbicide-resistant mutants of cyanobacteria reveals that phytoene desaturation is a rate-limiting step in carotenoid biosynthesis. *J. Biol. Chem.* **268**(23), 17348-17353 (1993).
2. Bartels, P.G. and Watson, C.W. Inhibition of carotenoid synthesis by fluridone and norflurazon. *Weed Sci.* **26**(2), 198-203 (1978).
3. Popova, L.P. and Riddle, K.A. Development and accumulation of ABA in fluridone-treated and drought-stressed *Vicia faba* plants under different light conditions. *Physiol. Plantarum* **98**(4), 791-797 (1996).
4. Hamelink, J.L., Buckler, D.R., Mayer, F.L., et al. Toxicity of fluridone to aquatic invertebrates and fish. *Environ. Toxicol. Chem.* **5**(1), 87-94 (1986).

#### 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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