

**Product Name:** Dantrolene, sodium salt

**Catalog No.:** 0507

**Batch No.:** 5

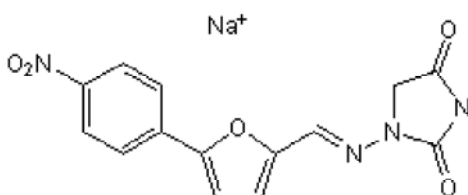
CAS Number: 14663-23-1

EC Number: 238-706-8

IUPAC Name: 1-[[[5-(4-Nitrophenyl)-2-furanyl]methylene]amino]-2,4-imidazolinedione sodium salt

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>14</sub>H<sub>9</sub>N<sub>4</sub>NaO<sub>5</sub>·4H<sub>2</sub>O  
**Batch Molecular Weight:** 408.29  
**Physical Appearance:** Orange solid  
**Solubility:** DMSO to 10 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 99.5% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	41.19	4.2	13.72
Found	41.42	4.03	13.67

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**Description:**

Inhibits release of Ca<sup>2+</sup> from sarcoplasmic reticulum via inhibition of ryanodine receptor (RYR) channels. Displays selectivity for RYR1 and RYR3 over RYR2. Protective against the effects of a variety of conditions and agents, including excitatory amino acids. Skeletal muscle relaxant and neuroprotectant.

**Physical and Chemical Properties:**

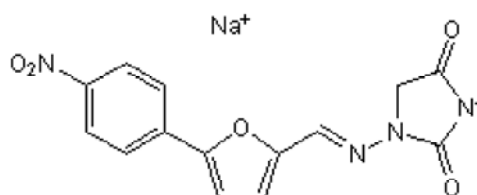
Batch Molecular Formula: C<sub>14</sub>H<sub>9</sub>N<sub>4</sub>NaO<sub>5</sub>·4H<sub>2</sub>O

Batch Molecular Weight: 408.29

Physical Appearance: Orange solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

DMSO to 10 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Zhao et al** (2001) Dantrolene inhibition of ryanodine receptor Ca<sup>2+</sup> release channels. *J.Biol.Chem.* **276** 13810. PMID: 11278295.

**O'Mara et al** (1995) Dantrolene inhibits long-term depression and depotentiation of synaptic transmission in the rat dentate gyrus. *Neuroscience* **68** 621. PMID: 8577362.

**Hotchkiss and Karl** (1994) Dantrolene ameliorates the metabolic hallmarks of sepsis in rats and improves survival in a mouse model of endotoxemia. *Proc.Natl.Acad.Sci.U.S.A.* **91** 3039. PMID: 8159702.

Merck Index **12** 2879.

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