

## Certificate of Analysis

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**Product Name:** *N*-Arachidonyl maleimide

**Catalog No.:** 3329

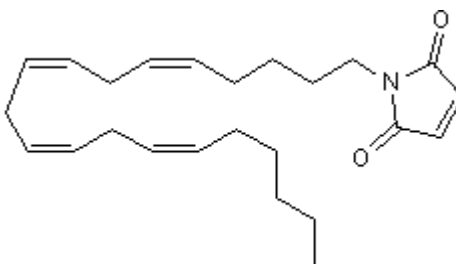
**Batch No.:** 2

CAS Number: 876305-42-9

IUPAC Name: 1-(5*Z*,8*Z*,11*Z*,14*Z*)-5,8,11,14-Eicosatetraen-1-yl-1*H*-pyrrole-2,5-dione

### 1. PHYSICAL AND CHEMICAL PROPERTIES

<b>Batch Molecular Formula:</b>	C <sub>24</sub> H <sub>35</sub> NO <sub>2</sub>
<b>Batch Molecular Weight:</b>	369.54
<b>Physical Appearance:</b>	Colourless liquid
<b>Solubility:</b>	Soluble in ethanol (supplied pre-dissolved in anhydrous ethanol, 10mg/ml)
<b>Storage:</b>	Store at -80°C
<b>Batch Molecular Structure:</b>	



### 2. ANALYTICAL DATA

<b>TLC:</b>	R <sub>f</sub> = 0.3 (Ethyl acetate:Hexane [4:1])
<b>HPLC:</b>	Shows 99.2% purity
<b>Mass Spectrum:</b>	Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Potent, competitive and irreversible monoacylglycerol lipase (MAGL) inhibitor ( $IC_{50} = 140$  nM). Selectively prevents metabolic inactivation of 2-arachidonoylglycerol (2-AG) by ~ 85% and increases the potency of 2-AG in mouse cerebellum in vitro.

**Physical and Chemical Properties:**

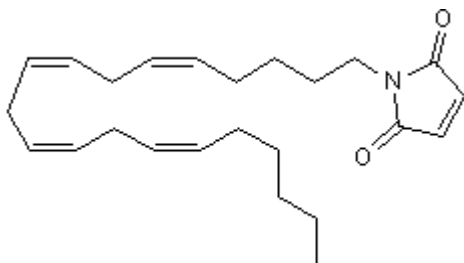
Batch Molecular Formula:  $C_{24}H_{35}NO_2$

Batch Molecular Weight: 369.54

Physical Appearance: Colourless liquid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**Storage:** Store at -80°C

**CAUTION** - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**

Soluble in ethanol (supplied pre-dissolved in anhydrous ethanol, 10mg/ml)

**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:**

**Saario et al** (2005) Characterization of the sulfhydryl-sensitive site in the enzyme responsible for hydrolysis of 2-arachidonoyl-glycerol in rat cerebellar membranes. *Chem.Biol.* **12** 649. PMID: 15975510.

**Blankman et al** (2007) A comprehensive profile of brain enzymes that hydrolyze the endocannabinoid 2-arachidonoylglycerol. *Chem.Biol.* **14** 1347. PMID: 18096503.

**Burston et al** (2008) *N*-arachidonyl maleimide potentiates the pharmacological and biochemical effects of the endocannabinoid 2-arachidonoylglycerol through inhibition of monoacylglycerol lipase. *J.Pharmacol.Exp.Ther.* **327** 546. PMID: 18682568.

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