Print Date: Jun 6th 2017

Certificate of Analysis

www.tocris.com

Product Name: **NPE-caged-HPTS** **Catalog No.: 2919** **Batch No.: 1**

CAS Number: 223759-19-1

IUPAC Name: 8-Hydroxypyrene-1,3,6-*tris*-sulfonic acid-8-1-(2-nitrophenyl)ethyl ether

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{24}H_{14}NO_{12}Na_3S_3.5H_2O$

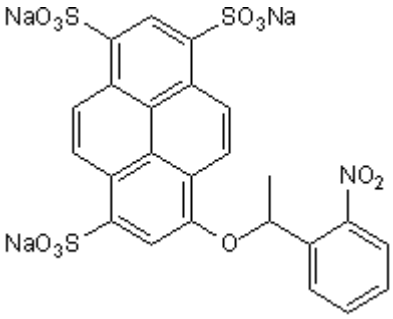
Batch Molecular Weight: 763.61

Physical Appearance:

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.76 (Pyridine:Acetic acid:Water:Butanol [3:8:11:14])

HPLC: Shows >97.2% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	37.75	3.17	1.83
Found	37.48	2.93	1.69

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Information

www.tocris.com

Product Name: **NPE-caged-HPTS** **Catalog No.: 2919** **Batch No.: 1**

CAS Number: 223759-19-1

IUPAC Name: 8-Hydroxypyrene-1,3,6-*tris*-sulfonic acid-8-1-(2-nitrophenyl)ethyl ether

Description:

Caged fluorescent pH indicator. Rapidly releases the fluorophore HPTS (pyranine) (pK_a 7.25) upon two-photon excitation (>3000 s^{-1}). Suitable for use in small-compartment diffusion studies.

Physical and Chemical Properties:

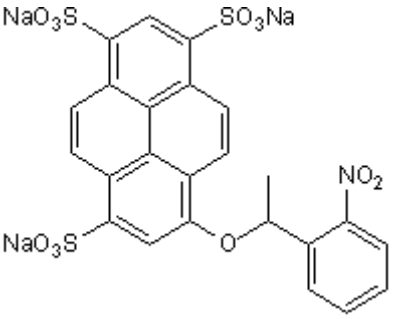
Batch Molecular Formula: $C_{24}H_{14}NO_{12}Na_3S_3.5H_2O$

Batch Molecular Weight: 763.61

Physical Appearance:

Minimum Purity: >97%

Batch Molecular Structure:



Storage: Store at -20°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:

water to 100 mM
DMSO to 100 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.

Other Information:

Free HPTS content measured to be 0.17% by HPLC

References:

Trigo *et al* (2009) Laser photolysis of caged compounds at 405 nm: photochemical advantages, localisation, phototoxicity and methods for calibration. J.Neurosci.Methods ***180*** 9. PMID: 19427524.

Soler-Llavina *et al* (2006) Synapse-specific plasticity and compartmentalized signaling in cerebellar stellate cells. Nat.Neurosci. ***9*** 798. PMID: 16680164.

Bloodgood and Sabatini (2005) Neuronal activity regulates diffusion across the neck of dendritic spines. Science ***310*** 866. PMID: 16272125.

Kiskin *et al* (2002) The efficiency of two-photon photolysis of a "caged " fluorophore, o-1-(2-nitrophenyl)ethylpyranine, in relation to photodamage of synaptic terminals. Eur.Biophys.J. ***30*** 588. PMID: 11908850.

Canepari *et al* (2001) Photochemical and pharmacological evaluation of 7-nitroindolinyl-and 4-methoxy-7-nitroindolinyl-amino acids as novel, fast caged neurotransmitters. J.Neurosci.Methods. ***112*** 29. PMID: 11640955.

Jasuja *et al* (1999) Chemotactic responses of *Escherichia coli* to small jumps of photoreleased L-aspartate. Biophys.J. ***76*** 1706. PMID: 10049350.

Willoughby *et al* (1998) Comparisons of simultaneous pH measurements made with 8-hydroxypyrene-1,3,6-trisulphonic acid (HPTS) and pH-sensitive microelectrodes in snail neurones. Pflugers Arch. ***436*** 615. PMID: 9683736.

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956