1. PHYSICAL AND CHEMICAL PROPERTIES

- **Batch Molecular Formula:** $\text{C}_3\text{H}_5\text{NO}_4$
- **Batch Molecular Weight:** 119.08
- **Physical Appearance:** White solid
- **Solubility:** DMSO to 100 mM, ethanol to 100 mM
- **Storage:** Store at +4°C

2. ANALYTICAL DATA

- **HPLC:** Shows 98.7% purity
- **GC:** Shows 97.2% purity
- **$^1\text{H NMR:}** Consistent with structure
- **Mass Spectrum:** Consistent with structure
Product Name: 3-Nitropropionic acid
CAS Number: 504-88-1

Description:
Irreversible mitochondrial respiratory complex II (succinate dehydrogenase) inhibitor; induces autophagy in SH-SY5Y cells. Recapitulates Huntington's disease-like pathology and symptoms in primate and rodent models.

Physical and Chemical Properties:
Batch Molecular Formula: C\textsubscript{6}H\textsubscript{7}NO\textsubscript{4}
Batch Molecular Weight: 119.08
Physical Appearance: White solid
Minimum Purity: >97%

Storage: Store at +4°C

Solubility & Usage Info:
DMSO to 100 mM
Ethanol 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.

References:
Huang et al (2005) 3-nitropropionic acid is a suicide inhibitor of mitochondrial respiration that, upon oxidation by complex II, forms a covalent adduct with a catalytic base arginine in the active site of the enzyme. J.Biol.Chem. 28 \textbf{5965}. PMID: 16371358.