



## CERTIFICATE OF ANALYSIS

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### 1. Identification

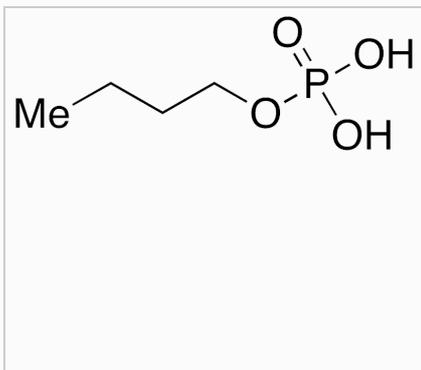
**Catalogue Number:** M525050

**CAS Number:** 1623-15-0

**Product:** Monobutyl Phosphate

**Synonym:** Phosphoric Acid Monobutyl Ester; Butyl Diacid Phosphate; Butyl Dibasic Acid Phosphate; Butyl Dihydrogen Phosphate; Dihydrogen Monobutyl Phosphate; JAMP 4P; MP 4; Monobutyl Dihydrogen Phosphate; Monobutyl Phosphate; NSC 41911;

**Structure:**



**Molecular Formula:**

C<sub>4</sub>H<sub>11</sub>O<sub>4</sub>P

**Molecular weight:**

154.1

**Source of Product:**

Synthetic

**Solubility:**

DMSO (Slightly), Ethyl Acetate (Slightly), Methanol (Slightly)

**Lot Number:** 5-YMK-27-1

**Purity:** 98%

**Shipping Condition:** This Product Is Stable To Be Shipped At Room Temperature

**Storage Condition:** 4°C

### 2. Warning

**Warning 1:**

**Warning 2:**

**Warning 3:**

### 3. Analytical Information

| Tests:             | Specifications:               | Results:            |
|--------------------|-------------------------------|---------------------|
| Appearance         | Colourless to Light Brown Oil | Colourless Oil      |
| NMR                | Conforms to Structure         | Conforms            |
| P NMR              | Conforms to Structure         | Conforms            |
| Elemental Analysis | Conforms                      | %C: 30.59, %H: 7.59 |
| HPLC Purity        | Report Result                 | 98.15% (ELSD)       |
| MS                 | Conforms to Structure         | Conforms            |

**Additional Information:** N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of ± 2%. Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

### 4. Signatures

| Reviewed By | Reviewed By   | C of A Approved By | Test Date  | Retest Date |
|-------------|---------------|--------------------|------------|-------------|
| Henry Tieu  | Toni Rantanen | Chanell Chu        | 10/17/2022 | 10/15/2032  |