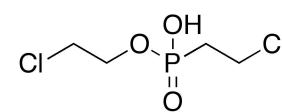


CERTIFICATE OF ANALYSIS**1. Identification**

Catalogue Number C366065 Lot Number 7-SNM-143-1

Product Name
2-Chloroethyl (2-Chloroethyl)phosphonate

StructureSynonyms

Mono-2-chloroethyl 2-Chloroethylphosphonate; O-(2-Chloroethyl) Hydrogen 2-Chloroethylphosphonate; 2-Chloroethanephosphonic Acid Mono-2-chloroethyl Ester; 2-Chloro (2-Chloroethyl) Hydrogen Phosphonate Ethanol;

CAS Number

17378-30-2

Solubility

Chloroform (Slightly), Methanol (Sparingly)

Shipping Condition

This Product Is Stable To Be Shipped At Room Temperature

Molecular FormulaC₄H₉Cl₂O₃PSource of Product

Synthetic

Long Term Storage Conditions

-20°C, Inert atmosphere

Molecular Weight

206.99

Purity

>95%

2. Warnings

Not Determined

3. Analytical Information

| <u>Tests</u> | <u>Specifications</u> | <u>Results</u> |
|--------------|--------------------------------------|----------------------|
| Appearance | Colourless to Brown Oil to Thick Oil | Clear Colourless Oil |
| NMR | Conforms to Structure | Conforms |
| P NMR | Conforms to Structure | Conforms |
| HPLC Purity | >95% | 99.84% (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 $\pm 2\%$. 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

| <u>Reviewed by</u> | <u>Reviewed by</u> | <u>C of A Approved by</u> | <u>Test Date</u> | <u>Retest Date</u> |
|--------------------|--------------------|---------------------------|------------------|--------------------|
| | | | 2/29/2024 | 2/27/2028 |

Henry Tieu
Product Quality Specialist

Toni Rantanen
Manager, Quality Assurance

Chanell Chu
Quality Assurance Associate