



>>Entry Name: Phosphonoformic acid

Synonym(s): Dihydroxyphosphinecarboxylic acid oxide, 9CI

CAS Registry Number: 4428-95-9

Related CAS Registry Numbers(s): 34156-56-4

$(\text{HO})_2\text{P}(\text{O})\text{COOH}$

Molecular Formula: $\text{CH}_3\text{O}_5\text{P}$

Molecular Weight: 126.005

Accurate Mass: 125.971812

Percentage Composition: C 9.53%; H 2.40%; O 63.49%; P 24.58%

Use/Importance: Oral, topical, and nasal prepns., or salts, are useful for treating viral infections, e.g. influenza and herpes, in man

pKa Value: $\text{p}K_{\text{a}1}$ 1.7; $\text{p}K_{\text{a}2}$ 3.59; $\text{p}K_{\text{a}3}$ 7.56 (25°)

>>Derivative: Tri-Na salt

Synonym(s): Trisodium phosphonoformate. **Foscarnet sodium**, BAN, INN, USAN. Foscavir. A 29622

CAS Registry Number: 63585-09-1

Use/Importance: More effective than esters against herpes virus DNA polymerase. Used in treatment of cytomegalovirus retinitis

Physical Description: Cryst. + $6\text{H}_2\text{O}$

Development Status: Launched 1989

Hazard & Toxicity: Nephrotoxic effects reported when used therapeutically

>>Derivative: C-Me ester

Synonym(s): Methyl (dihydroxyphosphinyl)formate

CAS Registry Number: 55920-68-8

Molecular Formula: $\text{C}_2\text{H}_5\text{O}_5\text{P}$

Molecular Weight: 140.032

Accurate Mass: 139.987462

Percentage Composition: C 17.15%; H 3.60%; O 57.13%; P 22.12%

Use/Importance: Na salts used as plant growth regulators

>>Derivative: C-Et ester

Synonym(s): Ethyl (dihydroxyphosphinyl)formate

CAS Registry Number: 55920-71-3

Molecular Formula: $\text{C}_3\text{H}_7\text{O}_5\text{P}$

Molecular Weight: 154.059

Accurate Mass: 154.003112

Percentage Composition: C 23.39%; H 4.58%; O 51.93%; P 20.11%

Use/Importance: Salts used as plant growth regulators

>>Derivative: C-Et ester, dianilinium salt

CAS Registry Number: 67472-32-6

Physical Description: Cryst. (EtOH)

Melting Point: Mp 143-145°

>>Derivative: C,P-Di-Et ester

Molecular Formula: $\text{C}_5\text{H}_{11}\text{O}_5\text{P}$

Molecular Weight: 182.113

Accurate Mass: 182.034412

Percentage Composition: C 32.98%; H 6.09%; O 43.93%; P 17.01%

Physical Description: Solid (as anilinium salt)

Melting Point: Mp 163 dec.° (anilinium salt)

>>Derivative: P,P-Di-Et ester

References: