

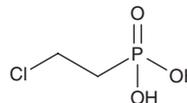
PRODUCT INFORMATION



Ethephon

Item No. 33562

CAS Registry No.: 16672-87-0
Formal Name: P-(2-chloroethyl)-phosphonic acid
Synonyms: CEP, CEPA, 2-Chloroethylphosphonic Acid, G-996
MF: C₂H₆ClO₃P
FW: 144.5
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Ethephon is supplied as a solid. A stock solution may be made by dissolving the ethephon in the solvent of choice, which should be purged with an inert gas. Ethephon is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ethephon in ethanol is approximately 25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of ethephon can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ethephon in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ethephon is a plant growth regulator.¹⁻³ It increases lipoxygenase activity and growth of rye seedling leaf blades when used at a concentration of 10 mM.¹ Ethephon (0.5 mM) increases levels of the plant hormone (+)-abscisic acid (Item No. 10073) and inhibits the shoot growth of cleavers and tomatoes.² It promotes fruit ripening of pears when used at a concentration of 250 ppm.³ Ethephon (7.2 g/L) induces stem and root death in *I. cairica* in a greenhouse pot test.⁴ Formulations containing ethephon have been used as plant growth regulators in agriculture.

References

1. Levinsh, G. Soluble lipoxygenase activity in rye seedlings as related to endogenous and exogenous ethylene and wounding. *Plant Sci.* **82(2)**, 155-159 (1992).
2. Hansen, H. and Grossmann, K. Auxin-induced ethylene triggers abscisic acid biosynthesis and growth inhibition. *Plant Physiol.* **124(3)**, 1438-1448 (2000).
3. Edgerton, L.J. and Blanpied, G.D. Regulation of growth and fruit maturation with 2-chloroethanephosphonic acid. *Nature* **219(5158)**, 1064-1065 (1968).
4. Sun, Z.Y., Zhang, T.J., Su, J.Q., et al. A novel role of ethephon in controlling the noxious weed *Ipomoea cairica* (Linn.) Sweet. *Sci. Rep.* **5**, 11372 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 08/23/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM