Cytokinin, Kinetin, N^{6-}-- Benzyladenine (116801, 116802, 116901) Fact Sheet

Summary

These substances regulate plant growth and development. When applied to crops as growth enhancers, these three active ingredients are not expected to present risks to humans or the environment.

I. Description of the Active Ingredient

Active Ingredient Name: Cytokinin
OPP Chemical Code: 116801

Active Ingredient Name: Kinetin
OPP Chemical Code: 116802; (CAS # 525-79-1)

Active Ingredient Name: N^6-Benzyladenine
OPP Chemical Code: 116901; (CAS # 1214-39-7)

The three substances are plant growth regulators, which enhance the growth and development of plants.

Cytokinin is a mixture of four structurally-similar substances that are found naturally in plants. For commercial purposes, cytokinin is purified from seaweed meal.

Kinetin and N ^{6}-Benzyladenine are synthetic substances that are similar to cytokinin in structure and in their ability to enhance growth in plants. Note: Kinetin is sometimes found naturally as a breakdown product of nucleic acids.

II. Use Sites, Target Pests, and Application Methods

- **Use Sites:** Many food and feed crops; ornamentals.
- **Uses:** Growth enhancer to increase yield and quality of crops.
- **Application Methods:** Many methods for use at various stages of plant development.

III. Assessing Risks to Human Health

No adverse effects to humans are expected from use of these substances to enhance growth and maturation of crops. In tests in laboratory animals, cytokinin and kinetin showed minimal to no toxic effects. N ^{6}-Benzyladenine showed some maternal and

developmental adverse effects when it was given to pregnant rats. To minimize exposure to workers who handle large amounts of N ^{6}-benzyladenine, EPA requires that all such workers wear specified personal protective equipment (PPE).

IV. Assessing Risks to the Environment

No risks to the environment are expected from use of cytokinin and kinetin for reasons that include: 1) cytokinin is consumed by the many aquatic organisms that eat algae and seaweed, 2) cytokinin is used as a dietary supplement in animal feed, 3) various studies using cytokinin and kinetin found no evidence of adverse effects to birds, fish, mammals, or other wildlife.

N ^{6}-benzyladenine is slightly toxic to aquatic organisms, and consequently is not permitted to be used in or near bodies of water.

V. Regulatory Information

Active Ingredient	Number of End Products (July 2000)	Year First Product Was Registered	Reregistration Review
Cytokinin	30	1978	1995
Kinetin	2	1995	1995
N^{6}-Benzyladenine	8	1979	1994

VI. Producer Information

Many companies have received registrations for pesticide products that contain cytokinin, kinetin, or N 6-benzyladenine as an active ingredient.

VII. Additional Contact Information

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