

Safety Data Sheet

PENTIA™ PLANT GROWTH REGULATOR

Revision date : 2010/08/12

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Version: 1.0

(30204835/SDS_CPA_US/EN)

1. Product and Company Identification

Use: crop protection product, growth regulator

CompanyBASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA24 Hour Emergency Response InformationCHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

Substance number:	000000092002
Molecular formula:	C7 H16 N . B5 H4 O10
Chemical family:	quaternary ammonium compound
Synonyms:	N,N-dimethylpiperidinium pentaborate

2. Hazards Identification

Emergency overview

CAUTION:
KEEP OUT OF REACH OF CHILDREN.
HARMFUL IF ABSORBED THROUGH SKIN.
Avoid contact with the skin, eyes and clothing.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
After contact with skin, wash immediately with plenty of water.
Wash thoroughly after handling.

See Product Label for additional precautionary statements.

State of matter: liquid
Colour: clear
Odour: mildPotential health effects**Primary routes of exposure:**

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Irritation / corrosion:

May cause slight irritation to the skin. May cause moderate but temporary irritation to the eyes.

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Sensitization:

Skin sensitizing effects were not observed in animal studies.

Potential environmental effects

Aquatic toxicity:

There is a high probability that the product is not acutely harmful to fish. Acutely harmful for aquatic invertebrates. There is a high probability that the product is not acutely harmful to aquatic plants.

Terrestrial toxicity:

With high probability not acutely harmful to terrestrial organisms.

3. Composition / Information on Ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
245735-90-4	9.6 %	mepiquat pentaborate
	90.4 %	Proprietary ingredients

4. First-Aid Measures

General advice:

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

If on skin:

Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:

Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

5. Fire-Fighting Measures

Flash point:

Non-flammable.

Autoignition:

not applicable not determined

Flammability:

does not ignite

Self-ignition temperature:

not self-igniting

Suitable extinguishing media:

foam, dry powder, carbon dioxide, water spray

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, Hydrocarbons, nitrogen oxides

If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

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Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions:

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Cleanup:

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Handling

General advice:

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Storage

General advice:

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Storage incompatibility:

General advice: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

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Temperature tolerance

Protect from temperatures below: 0 °C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls and Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid	
Odour:	mild	
Colour:	clear	
pH value:	7.5	
Freezing point:	approx. 0 °C	(1,013.3 hPa) Information applies to the solvent.
Boiling point:	approx. 100 °C	(1,013.3 hPa) Information applies to the solvent.

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Vapour pressure:	approx. 23 hPa	(20 °C)	Information applies to the solvent.
Density:	1,037 g/cm ³	(20 °C)	
	1.032 g/cm ³	(20 °C)	
Bulk density:			not applicable
Partitioning coefficient n-octanol/water (log Pow):			not applicable
Viscosity, dynamic:	approx. > 1 mPa.s		
Solubility in water:	approx. > 250 g/l	(20 °C)	
Molar mass:	332.29 g/mol		

10. Stability and Reactivity

Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

Substances to avoid:

oxidizing agents

Hazardous reactions:

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

Thermal decomposition:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrocarbons

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Oxidizing properties:

not fire-propagating

Not an oxidizer.

11. Toxicological information

Acute toxicity

Oral:

Type of value: LD50

Species: rat

Value: > 500 - < 1,000 mg/kg

Inhalation:

Type of value: LC50

Species: rat

Value: > 2.63 mg/l

Exposure time: 4 h

Type of value: LC50

Species: rat

Value: > 10.52 mg/l (calculated)

Exposure time: 1 h

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Dermal:

Type of value: LD50
Species: rabbit
Value: > 2,000 mg/kg

Irritation / corrosion

Skin:

Species: rabbit
Result: non-irritant

Eye:

Species: rabbit
Result: mildly irritating

Species: rabbit
Result: moderately irritating

Sensitization:

Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.
Skin sensitizing effects were not observed in animal studies.

Genetic toxicity

Information on: mepiquat pentaborate
No mutagenic effect was found in various tests with microorganisms and mammals.

Carcinogenicity

Information on: mepiquat pentaborate
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Information on: mepiquat pentaborate
The results of animal studies gave no indication of a fertility impairing effect.

Development:

Information on: mepiquat pentaborate
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological Information

Fish

Information on: mepiquat pentaborate
Acute:
Oncorhynchus mykiss/LC50 (96 h): > 100 mg/l
Lepomis macrochirus/LC50: > 100 mg/l

Aquatic invertebrates

Information on: mepiquat pentaborate

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Acute:
Daphnia magna/EC50 (48 h): 68.5 mg/l
Daphnia magna/EC50: 106 mg/l

Aquatic plants

Information on: mepiquat pentaborate
Toxicity to aquatic plants:
green algae/EC50 (72 h): > 1,000 mg/l

Non-Mammals

Information on: mepiquat pentaborate
Other terrestrial non-mammals:
bobwhite quail/LD50: > 2,000 mg/kg
bobwhite quail/LC50: > 10000 mg/kg feed
mallard duck/LC50: > 10000 mg/kg feed
Honey bee/LD50: > 100 ug/bee

Degradability / Persistence **Biological / Abiological Degradation**

Evaluation: Not readily biodegradable (by OECD criteria).

Other adverse effects:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:

This product is not regulated by RCRA.

14. Transport Information

Reference Bill of Lading

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US blocked / not listed

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Crop Protection TSCA, US released / exempt

OSHA hazard category: Skin and/or eye irritant;

EPCRA 311/312 (Hazard categories): Acute;

State regulations

CA Prop. 65:

There are no listed chemicals in this product.

16. Other Information

Refer to product label for EPA registration number.

Recommended use: growth regulator

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

MSDS Prepared by:

BASF NA Product Regulations

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MSDS Prepared on: 2010/08/12

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