

# Safety Data Sheet

## APOGEE™ PLANT GROWTH REGULATOR

Revision date : 2010/02/02

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Version: 1.0

(30059408/SDS\_CPA\_US/EN)

### 1. Product and Company Identification

Company  
BASF CORPORATION  
100 Campus Drive  
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information  
CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP

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Substance number: 000000053557  
Molecular formula: C10 H10 O5 Ca  
Synonyms: Prohexadione Calcium

### 2. Hazards Identification

#### Emergency overview

CAUTION:  
KEEP OUT OF REACH OF CHILDREN.  
HARMFUL IF ABSORBED THROUGH SKIN.  
Causes eye irritation.  
Avoid contact with the skin, eyes and clothing.

See Product Label for additional precautionary statements.

State of matter: solid  
Colour: tan  
Odour: odourless

#### Potential 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:**

Relatively nontoxic 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.

#### Potential environmental effects

##### **Terrestrial toxicity:**

With high probability not acutely harmful to terrestrial organisms.

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### 3. Composition / Information on Ingredients

| <u>CAS Number</u> | <u>Content (W/W)</u> | <u>Chemical name</u>       |
|-------------------|----------------------|----------------------------|
| 127277-53-6       | 27.5 %               | Prohexadione-Calcium       |
| 1344-95-2         | 4.0 %                | Silicic acid, calcium salt |
|                   | 68.5 %               | 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.

**Note to physician**

Antidote: No known specific antidote.  
Treatment: Treat symptomatically.

### 5. Fire-Fighting Measures

**Suitable extinguishing media:**

foam, dry extinguishing media, carbon dioxide, water spray

**Hazards during fire-fighting:**

carbon monoxide, carbon dioxide, Hydrocarbons, nitrogen oxides

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

**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.

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### 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.

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### 7. Handling and Storage

**Handling**

**General advice:**

No special measures necessary if stored and handled correctly.

**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.

**Temperature tolerance**

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.

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### 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.

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### 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.

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## 9. Physical and Chemical Properties

|                      |                               |  |
|----------------------|-------------------------------|--|
| Form:                | granules, solid               |  |
| Odour:               | odourless                     |  |
| Colour:              | tan                           |  |
| pH value:            | 6.6                           |  |
| Melting point:       |                               | not applicable, The substance / product decomposes therefore not determined. |
| Boiling point:       |                               | The product is a non-volatile solid., not applicable                         |
| Vapour pressure:     |                               | negligible   |
| Bulk density:        | 0.54 - 0.70 kg/m <sup>3</sup> |  |
| Particle size:       | 4 - 7 µm                      |  |
| Solubility in water: |                               | dispersible  |
| Molar mass:          | 250.26 g/mol                  |  |

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## 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. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud AND 2. the concentration of the dust is above the lower explosion limit (LEL) AND 3. the limiting oxygen concentration (LOC) is exceeded.

##### **Substances to avoid:**

strong oxidizing agents

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**Hazardous reactions:**

No hazardous reactions when stored and handled according to instructions.

**Decomposition products:**

No hazardous decomposition products known.

**Thermal decomposition:**

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, 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 an oxidizer.

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## 11. Toxicological information

**Acute toxicity****Oral:**

Type of value: LD50

Species: rat

Value: > 5,000 mg/kg

The statement for acute oral toxicity was derived from products of similar composition.

**Inhalation:**

Type of value: LC50

Species: rat

Value: > 5.7 mg/l

Exposure time: 4 h

The statement for acute inhalative toxicity was derived from products of similar composition.

**Dermal:**

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

The statement for acute dermal toxicity was derived from products of similar composition.

**Irritation / corrosion****Skin:**

Species: rabbit

Result: non-irritant

The statement for skin irritation was derived from products of similar composition.

**Eye:**

Species: rabbit

Result: moderately irritating

The statement for irritation of the mucous membrane was derived from products of similar composition.

**Sensitization:**

Skin sensitization test

Species: guinea pig

Result: Non-sensitizing.

The statement for sensitization was derived from products of similar composition.

**Genetic toxicity**

*Information on: Prohexadione-Ca*

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*No mutagenic effect was found in various tests with microorganisms and mammals.*  
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### **Carcinogenicity**

*Information on: Prohexadione-Ca*  
*In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.*  
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### **Reproductive toxicity**

*Information on: Prohexadione-Ca*  
*The results of animal studies gave no indication of a fertility impairing effect.*  
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### **Development:**

*Information on: Prohexadione-Ca*  
*No indications of a developmental toxic / teratogenic effect were seen in animal studies.*  
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## **12. Ecological Information**

### **Fish**

*Information on: Prohexadione-Ca*  
*Acute:*  
*Oncorhynchus mykiss/LC50 (96 h): > 100 mg/l*  
*Lepomis macrochirus/LC50: > 100 mg/l*  
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### **Aquatic invertebrates**

*Information on: Prohexadione-Ca*  
*Acute:*  
*Daphnia magna/EC50 (48 h): > 100 mg/l*  
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### **Aquatic plants**

*Information on: Prohexadione-Ca*  
*Toxicity to aquatic plants:*  
*green algae/EC50 (120 h): > 100 mg/l*  
*green algae/EC50: > 1.2 mg/l*  
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### **Non-Mammals**

*Information on: Prohexadione-Ca*  
*Other terrestrial non-mammals:*  
*bobwhite quail/LD50: > 2,000 mg/kg*  
*bobwhite quail/LC50: > 5,000 ppm*  
*mallard duck/LC50: > 5,000 ppm*  
*Honey bee/LD50: > 100 ug/bee*  
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### **Degradability / Persistence** **Biological / Abiological Degradation**

Evaluation: Not readily biodegradable (by OECD criteria).

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### Other adverse effects:

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

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## 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.

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## 14. Transport Information

Reference Bill of Lading

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## 15. Regulatory Information

### Federal Regulations

#### Registration status:

Chemical TSCA, US released / listed

Crop Protection TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Acute;

### State regulations

State RTK  
MA, PA

CAS Number  
1344-95-2

Chemical name  
Silicic acid, calcium salt

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## 16. Other Information

**Refer to product label for EPA registration number.**

Recommended use: growth regulator

BASF supports 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

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products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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### Local Contact Information

Product Stewardship

919 547-2000

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

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