We create chemistry

Safety Data Sheet
Apogee® Plant Growth Regulator

1. Identification

Product identifier used on the label

Apogee® Plant Growth Regulator

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, growth regulator

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula: C10 H10 O5 Ca
PCP # 28042
Synonyms: Prohexadione Calcium

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Label elements

The product does not require a hazard warning label in accordance with GHS criteria.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

prohexadione-calcium; calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate
CAS Number: 127277-53-6
Content (W/W): 27.5 %
Synonym: Prohexadione calcium

sodium-di-ethyl-hexyl-sulfosuccinate
CAS Number: 577-11-7
Content (W/W): 0.1 - 1.0%
Synonym: Sulfobutanedioic acid 1,4-bis(2-ethylhexyl) ester, sodium salt; Docusate sodium, Sodium dioctyl sulfosuccinate, Dioctyl sodium sulfosuccinate

Ammonium sulphate
CAS Number: 7783-20-2
Content (W/W): 50.0 - 75.0%
Synonym: Sulfuric acid, diammonium salt

Silicic acid, calcium salt
CAS Number: 1344-95-2
Content (W/W): < 5.0%
Synonym: Silicic acid calcium salt

4. First-Aid Measures

Description of 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. Show container, label and/or safety data sheet to physician.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

If on skin:
Rinse skin immediately with plenty of water for 15 - 20 minutes. If irritation develops, seek medical attention.

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 irritation develops, seek medical attention.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms: (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, dry powder, carbon dioxide, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
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. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

6. Accidental release measures

Further accidental release measures:
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures

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.

Methods and material for containment and cleaning up

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

Precautions for safe handling
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. Avoid aerosol formation. Avoid dust formation. 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:
Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities
Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.
Segregate from foods and animal feeds.

Further information on storage conditions: 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.
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/Personal Protection

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

Components with occupational exposure limits

Silicic acid, calcium salt	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ; TWA value 15 mg/m3 Total dust ;

Personal protective equipment

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:
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:	granules, solid
Odour:	odourless
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	tan
pH value:	approx. 6.0 - 8.0 (20 °C)
Melting point:	not applicable, The substance / product decomposes therefore not determined.
Boiling point:	The product is a non-volatile solid., not applicable
Flash point:	not applicable, the product is a solid
Flammability:	not determined
Autoignition:	No data available.
Vapour pressure:	negligible
Bulk density:	approx. 0.54 - 0.70 kg/m3
Partitioning coefficient n-octanol/water (log Pow):	The statements are based on the properties of the individual components.

Information on: prohexadione-calcium; calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate

Partitioning coefficient n-octanol/water (log Pow):	-2.9 (20 °C)

Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Solubility in water:	dispersible
Molar mass:	250.26 g/mol
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
Corrosive effects to metal are not anticipated.

Oxidizing properties:
not fire-propagating

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is chemically stable.
Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

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

Incompatible materials
strong oxidizing agents

Hazardous decomposition products

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:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

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

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Oral
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg

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.

Type of value: LD50
Species: rat
Value: > 2,000 mg/kg
No mortality was observed.

Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: Irritating to eyes.

Skin
Species: rabbit
Result: non-irritant

Eye
Species: rabbit
Result: non-irritant

Sensitization
Assessment of sensitization: The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.
There is no evidence of a skin-sensitizing potential.

Buehler test
Species: guinea pig
Result: Non-sensitizing.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Genetic toxicity
Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity
Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity
Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information
Misuse can be harmful to health.

Medical conditions aggravated by overexposure
Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish

Information on: prohexadione-calcium; calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate
LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic)

Information on: Ammonium sulphate
LC50 (96 h) 53 mg/l, Oncorhynchus mykiss (Fish test acute)

Aquatic invertebrates

Information on: prohexadione-calcium; calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate
EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants

Information on: prohexadione-calcium; calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate
EC50 (72 h) > 100 mg/l, Pseudokirchneriella subcapitata
EC50 (72 h) > 100 mg/l, Pseudokirchneriella subcapitata
EC10 (14 d) 0.0331 mg/l, Myriophyllum spicatum
EC50 (14 d) 0.39 mg/l, Myriophyllum spicatum

Assessment of terrestrial toxicity
With high probability not acutely harmful to terrestrial organisms.

Persistence and degradability

Elimination information

Information on: Prohexadione-Calcium

Not readily biodegradable (by OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential
The product has not been tested. The statement has been derived from the properties of the individual components.

Bioaccumulation potential

Information on: prohexadione-calcium; calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: prohexadione-calcium; calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate

Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
See product label for disposal and recycling instructions.

Container disposal:
Rinse the container or liner as needed for disposal. Add rinsate to spray tank. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. Consult the product label for additional details.

14. Transport Information

Land transport
TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection	DSL, CA	released / exempt
Chemical	DSL, CA	released; restriction on quantity / not listed

Labeling requirements under Pest Control Products Act

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:
WARNING:
Contains the allergen sulfite(s).
KEEP OUT OF REACH OF CHILDREN.
HARMFUL IF SWALLOWED.
Avoid contact with the skin, eyes and clothing.
Wash thoroughly after handling.

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2021/01/05

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.

END OF DATA SHEET