

# CYCOCEL® PLANT GROWTH REGULATOR

**EPA Registration Number: 241-74-59807**

## 1. IDENTIFICATION

**Product name** . . . . .: CYCOCEL® PLANT  
GROWTH REGULATOR

**EPA Registration No.** . . . . .: 241-74-59807

**Recommended use of the chemical and restriction on use**

**Recommended use\*** . . . . .: Growth regulator

\* The "Recommended use" identified for this product is provided solely to comply with a US 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.

### Other means of identification

**Molecular formula** . . . . .: C5 H13 Cl2 N

**Chemical family** . . . . .: quaternary ammonium compound

**Synonyms** . . . . .: chlormequat chloride

**Company information** . . . . .: OHP, Inc.  
PO Box 746  
Bluffton, SC 29910-0746  
(800) 659-6745

### TRANSPORTATION EMERGENCY

**(24 hours a day) call** . . . . .: Chemtec: 1-800-424-9300

**MEDICAL EMERGENCY (24 hours a day) and Product Information call** . . . . .: 1-800-356-4647

**SDS Information or Request:** ohp.com

## 2. HAZARDS IDENTIFICATION

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

### Classification of the product

Acute Tox. 4 (oral) Acute toxicity

### Label elements

Pictogram:



**Signal Word** . . . . .: Warning

### Hazard Statement:

H302 Harmful if swallowed.

### Precautionary Statements (Prevention):

P270 Do not eat, drink or smoke when using this product.

P264 Wash contaminated body parts thoroughly after handling.

### Precautionary Statements (Response):

P301+ P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

### Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

### Hazards not otherwise classified

### Labeling of special preparations (GHS):

May produce an allergic reaction. Contains: Sorbitan monolaurate, ethoxylated

The following percentage of the mixture consists of component(s) with unknown hazards regarding the acute toxicity: 0 - 1 % dermal

The following percentage of the mixture consists of component(s) with unknown hazards regarding the acute toxicity: 0 - 1 % oral

The following percentage of the mixture consists of component(s) with unknown hazards regarding the acute toxicity: 1 - 2 % Inhalation - vapour

The following percentage of the mixture consists of component(s) with unknown hazards regarding the acute toxicity: 1 - 2 % Inhalation - mist

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

CAS Number	Weight %	Chemical Name
999-81-5	11.8 %	chlormequat chloride

## 4. FIRST AID MEASURES

### Description of first aid measures

**General advice** . . . . .: Remove contaminated clothing.

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

**If on skin** . . . . .: Wash thoroughly with soap and water.

**If in eyes** . . . . .: Wash affected eyes for a least 15 minutes under running water with eyelids held open.

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**If swallowed:** . . . . .: Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** . . . . .: No significant reaction of the human body to the product known.

**Indication of any immediate medical attention and special treatment needed**

**Note to physician**

**Antidote** . . . . .: No known specific antidote.

**Treatment** . . . . .: Treat symptomatically.

## 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, acid halides  
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.** . . . . .: Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

## 6. ACCIDENTAL RELEASE MEASURES

**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

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

. . . . .: No explosion proofing necessary.

### Conditions for safe storage, including any incompatibilities

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

### 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.

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**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.

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.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

No occupational exposure limits known.

**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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Form** . . . . . : liquid

**Odour** . . . . . : fish-like, faint odour

**Odour threshold** . . . . . : Not determined due to potential health hazard by inhalation.

**Colour** . . . . . : colourless, clear

**pH value** . . . . . : 4.8 - 5.2

**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.

**Flash point** . . . . . : Non-flammable. Information applies to the solvent.

**Flammability** . . . . . : not applicable

**Lower explosion limit** . . . . . : As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

**Upper explosion limit** . . . . . : As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.

**Autoignition** . . . . . : not applicable

**Vapour pressure** . . . . . : approx. 23.3 hPa (20°C)  
Information applies to the solvent.

**Density** . . . . . : approx. 1.02g/cm3 (20°C)  
(OECD Guideline 109)

**Relative density** . . . . . : approx. 1.02 (20°C)

**Vapour density** . . . . . : not applicable

**Information on: chlormequat chloride**

**Partitioning coefficient n-octanol/  
water (log Pow)** . . . . . : -3.47

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**Self-ignition**

**temperature** . . . . . : not self-igniting

**Thermal decomposition** . . . . : carbon monoxide, carbon dioxide, Hydrogen chloride, nitrogen oxide

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.

**Viscosity, dynamic** . . . . . : approx. 1.55mPa.s (20°C) (OECD 114)

**Solubility in water** . . . . . : completely soluble

**Molar mass** . . . . . : 158.1 g/mol

**Evaporation rate** . . . . . : not applicable

**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 effect on** . . . . . : carbon steel (iron)

**Oxidizing properties** . . . . . : Not an oxidizer.

**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 extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

**Incompatible materials** . . . . : oxidizing agents, strong alkalis, carbon steel (iron)

**Hazardous decomposition products**

**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, Hydrogen chloride, nitrogen oxide  
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.

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

**Oral**

Type of value: LD50  
Species: human  
Value: 50 - 200 mg/kg  
Literature data. The data on toxicology refer to the active ingredient.

Type of value: LD50  
Species: rat  
Value: > 6,000 mg/kg

**Inhalation**

Type of value: LC50  
Species: rat  
Value: > 5.2 mg/l  
Exposure time: 4 h  
No mortality was observed.  
Type of value: ATE  
Value: > 20.0000 mg/l  
Determined for vapor

Type of value: ATE  
Value: > 5.0000 mg/l  
Determined for mist

**Dermal**

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

**Irritation / corrosion**

Assessment of irritating effects: May cause slight irritation to the skin. May cause moderate but temporary irritation to the eyes.

**Skin**

Species: rabbit  
Result: non-irritant  
Method: OPP 81-5  
(EPA-Guideline)

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**Eye**

Species: rabbit  
Result: moderately irritating  
Method: EPA Guideline

No significant reaction of the human body to the product known.

**Sensitization**

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

**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.

**Information on: Hydrogen chloride**

*Assessment of repeated dose toxicity: After repeated administration the prominent effect is the induction of corrosion.*

**Information on: chlormequat chloride**

*Assessment of repeated dose toxicity: The substance may reversibly affect the nervous system, but there are no indications of permanent nerve cell damage.*

**Genetic toxicity**

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

**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.

**Symptoms of Exposure**

**12. ECOLOGICAL INFORMATION**

**Toxicity**

**Aquatic toxicity**

**Assessment of**

**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.

**Toxicity to fish** . . . . . : *Information on: chlormequat chloride LC50 (96 h) > 100 mg/l, Cyprinus carpio (OECD 203; ISO 7346; 84/449/EEC, C.1, static)*  
*The details of the toxic effect relate to the nominal concentration.*

**Aquatic invertebrates** . . . . . : *Information on: chlormequat chloride EC50 (48 h) 16.9 mg/l, Daphnia magna (DIN 38412 Part 11)*  
*The details of the toxic effect relate to the nominal concentration.*

**Aquatic plants** . . . . . : *Information on: chlormequat chloride EC50 (96 h) > 100 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)*  
*The product has not been tested. The data have been deduced from values for a preparation or mixture with a lower substance concentration.*  
*EC50 (7 d) 28.0 mg/l (growth rate), Lemna gibba (static)*  
*The product has not been tested. The data have been deduced from values for a preparation or mixture with a lower substance concentration.*

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

**Other terrestrial non-mammals** . . . . . : *Information on: chlormequat chloride LC50 > 5,000 mg/kg, Colinus virginianus*

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*LC50 > 5,000 mg/kg feed,  
Anas platyrhynchos  
Apis mellifera  
No data available.*

**Persistence and degradability**

**Elimination information.** . . . : Poorly biodegradable.

**Assessment biodegradation and elimination (H2O)**

**Information on** . . . . . : *chlormequat chloride*  
*Not readily biodegradable (by OECD criteria). Mod-  
erately/partially biodegradable.*

**Bioaccumulative potential**

**Assessment Bioaccumulation potential**

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

**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** . . . . . : *chlormequat chloride*

*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** . . . . . :

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**

**Land transport**

**USDOT**

Not classified as a dangerous good under transport regulations

**Sea transport**

**IMDG**

Not classified as a dangerous good under transport regulations

**Air transport**

**IATA/CAO**

Not classified as a dangerous good under transport regulations

**15. REGULATORY INFORMATION**

**Federal Regulations**

**Registration status**

Crop Protection	TSCA, US	released / exempt
Chemical	TSCA, US	released / listed

**EPCRA 311/312**

**(Hazard categories)** . . . . . : Acute;

**CA Prop. 65:**

There are no listed chemicals in this product.

**Labeling requirements under FIFRA**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

**CAUTION** . . . . . : KEEP OUT OF REACH OF CHILDREN.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

Avoid contact with the skin, eyes and clothing.

**16. OTHER INFORMATION**

**Other Information**

**SDS Prepared on** . . . . . : 06/04/2018

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 ensur-

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ing 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.

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

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