

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*: Plant 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 51230
Mainland, PA 19451
(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

Aquatic Chronic 2 Hazardous to the aquatic environment - Chronic

Label elements

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

Hazards not otherwise classified

Labeling of special preparations (GHS):

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

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

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

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

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

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

CAS-No.	Content (W/W)	Chemical Name
999-81-5	11.8 %	chlormequat chloride

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS-No.	Content (W/W)	Chemical Name
999-81-5	11.8 %	chlormequat chloride
	88.2 %	Proprietary ingredients

4. FIRST AID MEASURES

Description of first aid measures

General advice: Remove contaminated clothing.

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

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.

CYCOCEL® PLANT GROWTH REGULATOR

EPA Registration Number: 241-74-59807

If swallowed: Rinse mouth and then drink plenty of water.

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.

Treatment: Symptomatic treatment (decontamination, vital functions).

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.

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 dioxide, nitrogen oxide, 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.

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.

CYCOCEL® PLANT GROWTH REGULATOR

EPA Registration Number: 241-74-59807

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

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.

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.

8. EXPOSURE CONTROLS/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

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: Information applies to the solvent. Nonflammable.

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.

CYCOCEL® PLANT GROWTH REGULATOR

EPA Registration Number: 241-74-59807

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

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. 1.55(20°C)
(OECD 114) mPa.s

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: rat
Value: > 6,000 mg/kg

Inhalation

Type of value: ATE
Value: > 20.0000 mg/l
Determined for vapor

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

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

Information on:
chlormequat chloride
Type of value: LC50
Species: rat
Value: > 5.2 mg/l
Exposure time: 4 h
An aerosol was tested.

CYCOCEL® PLANT GROWTH REGULATOR

EPA Registration Number: 241-74-59807

Dermal

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

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)

Eye

Species: rabbit
Result: moderately irritating
Method: EPA Guideline

Sensitization

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

Information on: Ethanaminium, 2-chloro-N,N,N-trimethyl-, chloride

Guinea pig maximization test
Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

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.

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.

Information on: chlormequat chloride

Assessment of mutagenicity: No mutagenic effect was found in various tests with microorganisms and mammals.

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.

Information on: chlormequat chloride

Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

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.

Information on: chlormequat chloride

Assessment of reproduction toxicity: 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

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

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.

CYCOCEL® PLANT GROWTH REGULATOR

EPA Registration Number: 241-74-59807

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
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). Moderately/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

CYCOCEL® PLANT GROWTH REGULATOR

EPA Registration Number: 241-74-59807

15. REGULATORY INFORMATION

Federal Regulations

Registration status

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

EPCRA 311/312

(Hazard categories): Acute;

State regulations

State RTK	CAS Number	Chemical name
NJ	999-81-5	chlormequat chloride

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.

CESSING 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 OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

Cycocel is registered trademark of BASF.

16. OTHER INFORMATION

Other Information

SDS Prepared on: 01/27/2015

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.

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 PRO-

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