

MATERIAL SAFETY DATA SHEET



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MSDS NO: AG00647-7
CAS NO: . 000999-81-5
DATE: 01/14/92

TRANSPORTATION EMERGENCY 201-835-3100

NON-TRANSPORTATION
OLYMPIC EMERGENCY PHONE 800-356-4647
OLYMPIC INFORMATION PHONE 800-659-6745

PRODUCT NAME: CYCOCEL® PLANT GROWTH REGULANT EPA Registration Number 241-74-59807

I. PRODUCT IDENTIFICATION

TRADE NAME CYCOCEL Plant Growth Regulant
SYNONYMS (2-chloroethyl) trimethylammonium chloride; Chlormequat chloride; Chlorocholine chloride; CCC
CHEMICAL FAMILY Quaternary Ammonia Compound
MOLECULAR FORMULA C5 H13 C12 N
MOLECULAR WEIGHT 158.110
USAGE Growth Regulant

decontaminate personnel or equipment, or handle broken packages or containers without protective equipment as specified in the Exposure Control Section. Decontaminate emergency personnel with soap and water before leaving the fire area.

Avoid breathing dusts, vapors and fumes from burning materials. Alert medical personnel to be ready to treat for pesticide poisoning. Control runoff water - if water enters a drainage system, advise the authorities downstream.

II. WARNING STATEMENTS

CAUTION. KEEP OUT OF REACH OF CHILDREN. HARMFUL IF SWALLOWED. MAY BE ABSORBED THROUGH THE SKIN. AVOID CONTACT WITH THE SKIN, EYES, AND CLOTHING.

VI. NFPA HAZARD RATING

(As Recommended by Olympic Hort. Prod.)

Health 2	Flammability 0	Reactivity 0	Other
0=Least	1=Slight	2=Moderate	3=High 4=Extreme

III. INGREDIENTS

COMPONENT	CAS. NO.	%	PEL/TV
Chlormequat Chloride	000999-81-5	11.80	None Established
Inerts		88.20	None Established
REFERENCE: Chlormequat Chloride			None
Inerts			None

VII. REACTIVITY DATA

STABILITY Stable
CONDITIONS TO AVOID To prevent product from freezing, do not store below 32 F (0 C)
POLYMERIZATION Will not occur
INCOMPATIBLE MATERIALS Strong alkalis
HAZARDOUS DECOMPOSITION
PRODUCTS Combustion may produce carbon monoxide, carbon dioxide, hydrogen chloride, and alkylamines.

IV. PHYSICAL PROPERTIES

APPEARANCE AND ODOR Colorless to pale yellow liquid; slight fishy odor.
BOILING POINT 212 F, 100 C
MELTING POINT Not Applicable
VAPOR PRESSURE Not Applicable
SPECIFIC GRAVITY 1.02 (8.52 lbs. per gallon)
VAPOR DENSITY Not Applicable
% VOLATILITY (BY VOL.) 88
OCTANOL/H2O
PARTITION COEF Not Applicable
pH 5.0 +/- 0.2
SATURATION IN AIR (BY VOL) Not Applicable
EVAPORATION RATE <1 (Butyl Acetate = 1)
SOLUBILITY IN WATER Complete

VIII. HEALTH HAZARD INFORMATION

TOXICITY DATA AND EFFECTS OF OVEREXPOSURE:

ACUTE TOXICITY DATA The acute oral LD50 in male albino rats is greater than 3915 mg/kg indicating that this product is slightly toxic if ingested.

However, this product demonstrates a wide range of LD50's between different animal species with a tendency to be more toxic in higher species such as monkeys and dogs vs. mice and rats. Therefore, it is prudent to assume that it may be at least moderately toxic to humans on ingestion.

The acute dermal LD50 in male albino rabbits is 5075 mg/kg indicating that this product is slightly toxic by single skin applications.

This product is non-irritating to rabbit eyes and skin. Prolonged exposure to aerosols of this product may irritate the respiratory tract.

V. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT >190 F TAG
Closed Cup
FLAMMABLE LIMITS (%BY VOL.) Not Applicable
AUTOIGNITION TEMP Not Available
DECOMPOSITION TEMP Not Available
FIRE EXTINGUISHING MEDIA This material will not burn or burns with difficulty. Use an extinguishing agent suitable for surrounding fires.
FIRE CONTROL TACTICS Wear self-contained, positive pressure breathing apparatus and full fire fighting protective clothing.

Keep unnecessary people away. Use as little water as possible. Dike area of fire to prevent pesticide run-off. Use spray or fog - solid stream may cause spreading.

Conduct fire fighting and rescue operations from upwind of the fire area. Evacuate people downwind who may come in contact with smoke, fumes, or contaminated surfaces. Do not

CHRONIC TOXICITY DATA:

Mutagenicity No mutagenic activity was observed in CYCOCEL Tech in all test methods used. These included Bacterial/Microsome Reverse Mutation (Ames) Test, Bone Marrow Cells in treated Chinese hamsters, study of the male mouse following oral administration, and mutagenicity in the drosophila and bacteria.

Teratogenicity No teratogenic or fetotoxic effects were observed at all dosages tested in mice, rats, and rabbits.

Carcinogenicity No oncogenic effects were observed in all dose levels tested in rats.
2-chloroethyl trimethylammonium chloride is not listed as a human carcinogen by the IARC, OSHA or NTP.

EMERGENCY AND FIRST AID PROCEDURES:

IF SWALLOWED Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Avoid alcohol. Get medical attention.

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IF ON SKIN: Remove contaminated clothing without delay and wash skin thoroughly with soap and water. Do not reuse clothing without laundering.

IF IN EYES: Immediately flush with plenty of water.

NOTES TO PHYSICIAN . . .: (2-chloroethyl) trimethylammonium chloride is a weak ganglionic stimulant with an action similar to that of nicotine. An effective antidote has not been established.

Based upon animal studies, atropine is definitely contraindicated as it may act synergistically with this choline derivative once poisoning has taken place.

IX. EXPOSURE CONTROL METHODS

During formulation of the product, use the following recommended industrial hygiene practices:

Wear rubber gloves and splash goggles to prevent exposure to skin and eyes. Do not inhale spray mist. Do not eat, drink, or smoke while using this product.

Wash thoroughly with soap and water after handling.

Remove contaminated clothing, launder before reuse.

For end-users, please refer to product label for personal protective equipment/clothing.

X. SPILL OR LEAK PROCEDURES

Cover with an inert absorbent material; sweep up and place in a closed container for disposal. Flush area with water.

WASTE DISPOSAL: Dispose in accord with local, state and federal regulations.

XI. SPECIAL PRECAUTIONS

HANDLING AND STORAGE . .: Do not contaminate water, food, or feed by storage or disposal. Store in a secure, dry, well-ventilated separate room, building or covered area.

Not for use or storage in or around the home.

Keep away from sources of ignition and protect from exposure to fire and heat.

Segregate from oxidizers and incompatible materials listed in the Reactivity Data Section.

XII. ADDITIONAL REGULATORY INFORMATION

SARA Title III Data

Section 311 and 312 Hazard Categories

Immediate Health Hazard: Y

Delayed Health Hazard: N

Fire Hazard: N

Reactive Hazard: N

Sudden Pressure

Release Hazard: N

Section 302 Extremely Hazardous Substances .: None

Section 313 Toxic Chemicals: None

CERCLA Reportable Quantity: None

XIII. APPENDIX

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