

CHLORMEQUAT CHLORIDE 750SI

PLANT GROWTH REGULATOR

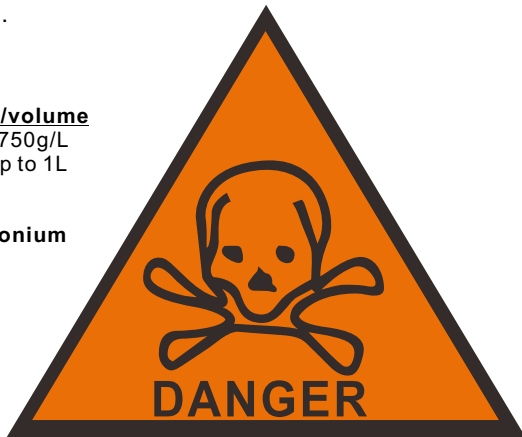
A water soluble solution plant growth regulator to reduce lodging and wind damage in wheat and maize.

Reg. No.:

Composition **mass/volume**
Chlormequat chloride.....750g/L
Inert ingredients.....up to 1L

Group: Quaternary ammonium

5Litres NET



DANGEROUS POISON

TO CAUSE A HAZARD IN THE USE,
STORAGE OR DISPOSAL OF THIS SUBSTANCE IS AN OFFENCE

KEEP OUT OF REACH OF CHILDREN



1. Triple rinse clean container after use
2. Puncture holes in bottom
3. Return to Maguire's Recycling Facility / Return to nearest recycling facility

Registration held by:

MAGCHEM (PVT) LIMITED,
2274 TILBURY ROAD,
WORKINGTON, HARARE,
ZIMBABWE

SAFETY PRECAUTIONS

1. Handle with care. Product is corrosive.
2. Wear protective clothing, boots, rubber gloves and face shield when handling the product.
3. KEEP OUT OF THE REACH OF CHILDREN.
4. KEEP APART FROM FOOD AND FOOTSTUFFS.
5. KEEP UNDER LOCK AND KEY.
6. DO NOT inhale fumes or spray mist.
7. Avoid contact with skin and eyes.
8. Prevent spray drift onto other crops, grazing, rivers, dams or other areas not under treatment.
9. DO NOT eat, drink or smoke whilst mixing or applying or before washing hands and face and changing clothes.
10. Wear protective clothing, boots, rubber gloves and face shield when handling the product.
11. Wash contaminated clothing daily.
12. Toxic to fish and birds.
13. Wash with soap and water after use and accidental skin contact.
14. Clean all equipment thoroughly after use. Dispose of wash water where it will not contaminate crops, grazing, rivers, dams and boreholes.
15. Triple rinse empty containers in the following manner: Rinse the container three times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the described manner.
16. Destroy the empty container by perforating and flattening and dispose of it in a safe manner.
17. **Never** re-use the empty container for any other purpose whatsoever.

SAFETY PRECAUTIONS

Empty container disposal

invert the empty container over the spray tank or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of 10% of the container. Add the rinsings to the contents of the spray tank. Destroy the empty container by perforation and flattening. Return to supplier for recycling. DO NOT use for any other purpose. Dispose of the wash water at a site for the disposal of pesticides.

Decontamination of sprayer

Clean applicator thoroughly after use and ensure that all traces of **CHLORMEQUAT CHLORIDE** are removed. Make use of the following method;

- (a) Drain and rinse tank, spray boom and hoses with clean water for at least 10 minutes
- (b) Fill tank with clean water and add it to 1 litre household bleach (5%) or 1.5 Litres of household bleach (3.5%) per 200 Litres of water. Rinse hoses and spray boom and leave in tank for 15 minutes whilst agitating. Drain through nozzle outlets.
- (c) Repeat step (b) and thereafter, rinse thoroughly with clean water and dispose of the wash water at a site designated for the disposal of pesticides.

DIRECTIONS FOR USE-Use only as directed

Compatibility:

CHLORMEQUAT CHLORIDE is compatible with most growth regulators, insecticides, fungicides, foliar fertilizers and herbicides except contact-herbicides. **CHLORMEQUAT CHLORIDE** is not compatible with dinitro-compounds, corrosive substances and / or contact herbicides.

Mixing instructions:

When mixing **CHLORMEQUAT CHLORIDE** with other crop protection products, add these compounds first to the required amount of water in the spray tank. Thereafter **CHLORMEQUAT CHLORIDE** must be mixed with an equal volume of water before adding to the contents of the spray tank.

Use restrictions:

CHLORMEQUAT CHLORIDE should only be used on healthy vigorously growing plants.

Application:

Apply **CHLORMEQUAT CHLORIDE** as a foliar spray in 300 - 400 litre/ha. Do not apply during rain or when rain is imminent. All spray applications must be made with suitable equipment that is in good working order and correctly calibrated to give the desired coverage for that particular method of application.

CROP	INDICATION	DOSAGE RATE	REMARKS
Wheat	Reduction of lodging and wind damage.	2.1 litre/ha	Apply as a foliar spray at first stem elongation (5-7 leaf stage).
Maize	Reduction of lodging.	2.1 litre/ha	Apply at 30 days after planting.

FIRST AID MEASUREMENT

IF IN EYES: Wash eyes for at least 15 minutes under running water, with eyelids held open. Consult an eye specialist.

IF SWALLOWED: Rinse mouth and then drink plenty of water. Do not induce vomiting, unless told by a poison control centre or doctor. Seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

IF ON SKIN: Wash skin with plenty of soap and water. If irritation develops, seek medical attention.

IF INHALED: Keep patient calm, remove to fresh air. Seek medical attention.

NOTE TO PHYSICIAN

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

WARRANTY

The excellent results which this product should normally yield are not however warranted or guaranteed as efficacy can be greatly influenced by factors outside the control of either the manufacturers or suppliers. No warranty whatsoever, express or implied, is therefore given concerning the performance or efficacy of this chemical and responsibility is specifically excluded for any damage, injury or loss of any kind during or resulting from its handling, use or storage. The product is warranted to consist of ingredients as shown on the label.

Date of Manufacture: OCT. 2015

Batch Number: 20151018

Manufactured by:

NOVAAGRO (HK) LTD
6TH FLOOR, WYNDHAM PLACE,
44 WYNDHAM STREET,
CENTRAL HONG KONG

Registration held by:

MAGCHEM (PVT) LIMITED,
2274 TILBURY ROAD,
WORKINGTON, HARARE,
ZIMBABWE



MATERIAL SAFETY DATA SHEET

PRODUCT : CHLORMEQUAT CHLORIDE 750SL

EFFECTIVE DATE : SEPTEMBER 2020

REVISION NO : 3

PAGE : 1 of 4

1. IDENTIFICATION OF SUBSTANCE AND COMPANY

PRODUCT NAME : CHLORMEQUAT CHLORIDE
750SL

COMMON NAME : Chlormequat chloride

CHEMICAL NAME : 2-chloroethyltrimethylammonium

SUPPLIER : NOVA AGRO (HK) LTD.
(Reg. No. 1023146)
6th Floor Wyndham Place
44 Wyndham Street
CENTRAL HONG KONG.

EMERGENCY TELEPHONE NUMBERS

POISONINGS:

National Poison Centre 021-938 6084 (office hours
(South Africa) 021-931 6129 (after hours)
0800 333 444 (24 h)

2. COMPOSITION / INFORMATION ON INGREDIENTS

CAS No. 999-81-5
Chemical Formula $(ClCH_2CH_2N(CH_3)_3)Cl / C_5H_{13}Cl_2N$ (Mol. wt.: 158.1)
UN No. 1760
Use Plant growth regulator.
Hazchem class 8
Hazardous components Chlormequat chloride 750 g/l
SYMBOLS Xn
RISK-PHRASE(S) R21/22

3. HAZARD IDENTIFICATION

Main hazard: Corrosive! Causes eye and skin damage.

Toxicity class: WHO Table 5; EPA III. A low toxicity plant growth regulator.

Flammability: Not flammable. Gives off irritating or toxic fumes (gases) in a fire.

Biological hazards: Skin contact and ingestion.

Eye contact: May cause moderate eye irritation.

Skin contact: May cause moderate skin irritation.

Ingestion: Oral ingestion may cause possible headache, giddiness, nausea, muscular twitching, sweating and incontinence.

Inhalation: Minimally toxic by inhalation.

Reproductive hazard: See section 11.

Carcinogenicity: See section 11.

Mutagenicity: See section 11.

Neurotoxicity: See section 11.

4. FIRST AID AND MEDICAL MEASURES AND PRECAUTIONS

Inhalation: Remove source of contamination or move victim to fresh air. Keep person warm and at rest. Treat symptomatically and supportively. Obtain medical advice if necessary.

Skin contact: Remove contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Seek medical advice if necessary.

Eye contact: Immediately flush the eyes with gently flowing water or saline solution for 20 minutes, holding the eyelid(s) open. Seek medical attention.

Ingestion: Do not induce vomiting. Wash out mouth with water and give water (0.25litres) to drink. Keep patient at rest and obtain medical attention at once.

Advice to physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

This product will not burn.

Extinguishing agents: Extinguish small surrounding fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for larger fires or cooling of unaffected stock, but avoid the accumulation of polluted run-off from the site.

Firefighting: Remove container from fire area if possible. Contain fire control water for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Keep material out of sewers and water sources. Avoid inhalation of hazardous vapours. Keep upwind.

Special Hazards: If involved in a fire, it will emit fumes containing toxic nitrogen and chlorine compounds.

Personal protective equipment: Fire-fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.



MATERIAL SAFETY DATA SHEET

PRODUCT : CHLORMEQUAT CHLORIDE 750SL

EFFECTIVE DATE : SEPTEMBER 2020

REVISION NO : 3

PAGE : 2 of 4

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions:

Do not inhale fumes. Ventilate area of spill or leak, especially confined areas. Avoid contact with skin, eyes or clothes. For personal protection see Section 8.

Environmental precautions:

Do not allow entering drains or watercourses. When the product contaminates public waters, inform appropriate authorities immediately in accordance with local regulations.

Occupational spill:

For **small spills**, soak up sand or suitable non-combustible absorbent material, place into containers for subsequent disposal. Thoroughly wash body areas, which come into contact with the product. Avoid runoff to sewer as it may cause fire/explosion. Do not allow the product to come in contact with water systems. For **large spills** contact the manufacturer. Contain liquid far ahead of spill. Contain spillage and contaminated water for subsequent disposal. Do not flush spilled material into drains. Keep spectators away and upwind.

7. HANDLING AND STORAGE REQUIREMENTS

Handling:

Harmful by inhalation. Avoid contact with eyes and skin and inhalation of fumes. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage:

Store in its original container in isolated, dry, cool (avoid temperatures above 40°C) and well-ventilated area. Avoid cross contamination with other pesticides and fertilizers. Product is stable in aqueous solutions of a pH<5. At higher pH the product decompose to ethylene. This product is sensitive for UV irradiation. Keep under lock and key out of reach of unauthorized persons, children and animals. Store away from

incompatible substances. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational exposure limits:

No occupational limits established by OSHA, ACGIH or NIOSH

Engineering control measures:

It is essential to provide adequate ventilation. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal equipment including approved respiratory protection.

Respirator: An approved full-face respirator suitable for protection from mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent skin contact with the substance.

Gloves: Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

Eye protection: Employee must wear splash-proof safety goggles and face-shield to prevent contact with this substance.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

8. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, yellow to brown liquid with strong fishy odour.

Flammability: Non-flammable

Explosive properties: Non-explosive.

Flash point: Not applicable. The product contains water.

Oxidising properties: Corrosive to unprotected metals.

pH: 6.5 – 7.5

Boiling point: >100°C



MATERIAL SAFETY DATA SHEET

PRODUCT : CHLORMEQUAT CHLORIDE 750SL

EFFECTIVE DATE : SEPTEMBER 2020

REVISION NO : 3

PAGE : 3 of 4

Decomposition point: >200°C

Relative density: 1.136 g/ml ± 0.01g/λ at 25°C

Storage stability: Stable for up to 2 years under normal warehouse and field conditions. Product is stable in aqueous solutions.

Solubility in water: Readily soluble in water.

10. STABILITY AND REACTIVITY

Stability: Will decompose at temperatures above 200°C . Stable for up to 2 years under normal warehouse and field conditions.

Incompatibility: Do not apply with contact herbicides. Do not physically mix concentrate directly with other pesticide concentrates; always dilute first.

Hazardous decomposition: If involved in a fire, it will emit fumes containing toxic nitrogen and chlorine compounds.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀: 670 mg/kg in rats.

Acute dermal LD₅₀: >6 500 mg/kg in rats.

Acute inhalation LC₅₀ (4 h): 5 mg/λ air for rats.

Acute skin irritation: This product is a mild to moderate skin irritant.

Acute eye irritation: This product is a mild to moderate skin irritant.

Dermal sensitisation: The product is not a dermal sensitiser (guinea pig).

Carcinogenicity: Animal studies did not detect any carcinogenic effects. No human information available.

Teratogenicity: Animal studies did not detect any teratogenic effects. No human information available.

Mutagenicity: Animal studies did not detect any mutagenic effects. No human information available.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGY:

Birds: Moderately toxic to birds.

Acute oral LD₅₀: 555 mg/kg (bobwhite quail).

Fish: Slightly toxic to fish.

LC₅₀ (72 hr): >1000 mg/λ (carp)

Bees: Non-toxic to bees.

Daphnia: EC₅₀ (48 h): 16.9 mg/λ.(*Daphnia magnas*)

Earthworms: Not available.

Breakdown of Chemical in Soil and Groundwater

Chlormequat chloride rapidly degrades in soil.

Breakdown of Chemical in Surface Water

No information currently available, but expected to degrade rapidly.

13. DISPOSAL CONSIDERATION

Pesticide disposal:

Waste resulting from the use of this product that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable local procedures. Hydrolysis under alkaline conditions is a suitable method to dispose of small quantities of the product. After hydrolysis, dilute and dispose of in pits or landfill. Comply with any local legislation applying to waste disposal.

Package product wastes:

Emptied containers retain vapour and product residues. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must first be triple-rinsed with water, punctured and recycled or disposed of.

14. TRANSPORT INFORMATION

UN NUMBER : 1760

ADR/IRD:

Substance name : Corrosive liquid, organic, n.o.s.
(Chlormequat chloride 750g/l).

Label : 8

IMDG/IMO:

Shipping name : Corrosive liquid, organic, n.o.s.
(Chlormequat chloride 750g/l).

Class : 8

Packaging Group : III

AIR/IATA:

Shipping name : Corrosive liquid, organic, n.o.s.
(Chlormequat chloride 750g/l).

Class : 8

Packaging Group : III



MATERIAL SAFETY DATA SHEET

PRODUCT : CHLORMEQUAT CHLORIDE 750SL

EFFECTIVE DATE : SEPTEMBER 2020

REVISION NO : 3

PAGE : 4 of 4

15. REGULATORY INFORMATION

Symbol : Xn; C

Indication of danger: Harmful, corrosive

Risk phrases:

R21/22 Harmful in contact with skin and if swallowed.

Safety phrases:

S1/2 Keep locked up and out of reach children.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National legislation: In accordance with 91/155/EEC Directive and with French standard T 01-102 and the South African Occupational Health and Safety Act, 1993 (Act. No. 85 of 1993).

• *Pestline*; Material Safety Data Sheets for Pesticides and Related Chemicals; Volume II; Occupational Health Services Inc., 1991.

• *MICROMEDEX*, International Healthcare Series.

• *ADR-Vol. II (Annex B)*, January 1997.

• *Dangerous Goods Regulations, IATA, 41st Edition, Effective 1 January 2000.*

16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

REFERENCES

- *The Pesticide Manual*; 13th Edition; Editor Clive Tomlin; Crop Protection Publications, 2004.