

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE AND THE SUPPLIER

1.1 Product identifier.

Product name: Mepiquat Chloride 210G/L + Metconazole 30G/L SL

1.2 Relevant identified uses of the substance or mixture and uses advised against.

Plant growth regulator

1.3 Details of the supplier of the safety data sheet.

Supplier name: Qingdao Rainbow Chemical Co., Ltd

Supplier address: Xinhe Eco-chemical science and Technology Industry Base, Qingdao, Shandong, China

Supplier phone: +86-532-68081298

Supplier fax: +86-532-68081297

Supplier E-mail: Rainbowagro@rainbowagro.com

1.4 Emergency phone number: +86-531-88875222

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Acute toxicity - Oral (Category 4)

Acute toxicity - Dermal (Category 5)

Acute toxicity - Inhalation (Category 5)

Acute toxicity – Skin irritation (Category 3)

Acute toxicity – Eye irritation (Category 2B)

Hazardous to the aquatic environment — Acute Hazard (Category 3)

2.2 Label elements.

Labelling in accordance with Regulation (EC) No 1272/2008:

Pictograms:



Signal word: Warning

Hazard statements:

H302: Harmful if swallowed

H313: May be harmful in contact with skin

H316: Causes mild skin irritation.

H320: Causes eye irritation

H333: May be harmful if inhaled

H402: Harmful to aquatic life

Precautionary statements:

P264 Wash face, hands and contact areas thoroughly after handling.

P264 + P265 Wash hands thoroughly after handling. Do not touch eyes.

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

P273 Avoid release to the environment.

P301 + P317 IF SWALLOWED: Get medical help.

P302 + P317 IF ON SKIN: Get medical help.

P304 + P317 IF INHALED: Get medical help.

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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 Rinse mouth.

P332 + P317 If skin irritation occurs: Get medical help.

P337 + P317 If eye irritation persists: Get medical help.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards.

Not available

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances.

Not applicable.

3.2 Mixtures.

Chemical Name	CAS No.	Concentration(G/L)	Classification
Mepiquat Chloride	24307-26-4	210G/L	Acute Tox. 3-oral Acute Tox. 4-inhalation Aquatic Chronic 3
Metconazole	129531-12-0	30G/L	Acute Tox. 4-oral Aquatic Chronic 2 Repr. 2
Other ingredients	/	Up to 1L	/

4. FIRST AID MEASURES

4.1 Description of first aid measures

INGESTION: Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Do not induce vomiting due to aspiration hazard.

INHALATION: Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

SKIN CONTACT: Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

EYE CONTACT: Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

4.2 Most important symptoms/effects, acute and delayed

Not available

4.3 Indication of any immediate medical attention and special treatment needed:

Not available

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media:

water spray, carbon dioxide, foam, dry powder.

5.2 Special hazards arising from the substance or mixture:

Not available

5.3 Advice for fire-fighters:

Wear self-contained breathing apparatus and chemical-protective clothing.

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6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

6.2 Environmental precautions:

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

6.3 Methods and materials for containment and cleaning up:

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

For small spills: absorb with an absorbent material such as sand, vermiculite or other absorbent material. Place contaminated material in appropriate containers for proper disposal. For large spills: dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, scrub the area with detergent and water and flush contaminated area thoroughly with water. Pickup wash liquid with additional absorbent and place in appropriate containers for disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

6.4 Reference to other sections:

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

Vapours may form ignitable mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2 Conditions for safe storage, including any incompatibilities:

Segregate from foods and animal feeds.

Further information on storage conditions: Protect against moisture. Keep away from heat. Protect from direct sunlight.

7.3 Specific end use(s):

Specific use(s): For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Mepiquat Chloride 24307-26-4	No data available	No data available	No data available	No data available	No data available
Metconazole 129531-12-0	No data available	No data available	No data available	No data available	No data available

8.2 Exposure controls

Appropriate engineering controls:

Apply technical measures to comply with the occupational exposure limits.

Personal protective equipment:

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RESPIRATORY PROTECTION: Suitable respiratory protection for higher concentrations or long-term effect:

Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds.

HAND PROTECTION: Suitable chemical resistant safety gloves also with prolonged, direct contact.

EYE PROTECTION: Chemical goggles or shielded safety glasses

SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, shoes with socks. Wear chemical-resistant gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties.

Appearance (physical state, color etc.):	Transparent Liquid
Odor:	Characteristic odor
Odor threshold:	No data available
pH:	3.0-5.0
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	Not highly flammable
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.04-1.06 g/ml
Solubility(ies):	Dispersible in water
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

9.2 Other information.

Explosive properties:	Not explosive
Oxidising properties	Non-oxidising

10. STABILITY AND REACTIVITY

10.1 Reactivity:

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

10.2 Chemical stability:

Stable under normal storage conditions.

10.3 Possibility of hazardous reactions:

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

10.4 Conditions to avoid:

Temperatures below 0°C and above 37.8°C.

10.5 Incompatible materials:

Store only in the original container.

10.6 Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

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11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute health effects:

Product:

Acute oral LD50:	500mg/kg
Acute dermal LD50:	>2000mg/kg
Acute inhalation LC50:	>5.03mg/L
Eye irritation	Mild irritation
Skin irritation	Mild irritation
Sensitization	Not a sensitizer

Mepiquat Chloride (CAS: 24307-26-4)

Acute oral LD50:	500 mg/kg in the rat
Acute dermal LD50:	>2000 mg/kg in the rat
Acute inhalation LC50:	>3.9 mg/L in the rat
Eye irritation	Not an irritant
Skin irritation	Not an irritant
Sensitization	Not a sensitizer

Metconazole (CAS: 129531-12-0)

Acute oral LD50:	1000 mg/kg in the rat
Acute dermal LD50:	>2000 mg/kg in the rat
Acute inhalation LC50:	> 5 mg/L in the rat
Eye irritation	Not an irritant
Skin irritation	Not an irritant
Sensitization	Not a sensitizer

Chronic health effects:

Germ cell mutagenicity:	Mepiquat Chloride: Not conclusive data for classification. Metconazole: Not conclusive data for classification.
Carcinogenicity:	Mepiquat Chloride: Not conclusive data for classification. Metconazole: Not conclusive data for classification.
Reproductive toxicity:	Mepiquat Chloride: Not conclusive data for classification. Metconazole: Some evidence of adverse developmental effects based on animal experiments, category 2.
STOT-single exposure:	Mepiquat Chloride: Not conclusive data for classification. Metconazole: Not conclusive data for classification.
STOT-repeated exposure:	Mepiquat Chloride: Not conclusive data for classification. Metconazole: Not conclusive data for classification.
Aspiration hazard:	Mepiquat Chloride: Not conclusive data for classification. Metconazole: Not conclusive data for classification.

11.2 Information on other hazards.

Endocrine disrupting properties: The mixture does not contain components considered to have endocrine disrupting properties endocrine disrupting properties in accordance with Article 57(f) of REACH or the Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or more.

Other information: There is no information available on other adverse health effects.

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12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Product:

Fish - 96 hour LC50	67.36 mg/L (Poecillia reticulata Peters)
Daphnia - 48 hour EC50	102.64 mg/L (Daphnia magna)
Algae - 72 hour EC50	29.21 mg/L (Chlorella vulgaris)
Birds - Acute LD50	2680.92 mg/kg (Coturnix coturnix japonica)
Honeybee - Acute contact LD50	179.75 µg/bee
Honeybee - Acute oral LD50	224.73 µg/bee
Earthworm - Acute LD50	1198.6 mg/kg

Mepiquat Chloride (CAS: 24307-26-4)

Fish - 96 hour LC50	> 100 mg/L (Oncorhynchus mykiss)
Daphnia - 48 hour EC50	68.5 mg/L (Daphnia magna)
Algae - 72 hour EC50	> 1000 mg/L (Raphidocelis subcapitata)
Birds - Acute LD50	> 2000 mg/kg (Colinus virginianus)
Honeybee - Acute contact LD50	> 100 µg/bee
Honeybee - Acute oral LD50	> 107.4 µg/bee
Earthworm - Acute LD50	319.5 mg/kg

Metconazole (CAS: 129531-12-0)

Fish - 96 hour LC50	2.1 mg/L (Oncorhynchus mykiss)
Daphnia - 48 hour EC50	4.2 mg/L (Daphnia magna)
Algae - 72 hour EC50	1.7 mg/L (Raphidocelis subcapitata)
Birds - Acute LD50	787 mg/kg (Colinus virginianus)
Honeybee - Acute contact LD50	> 100 µg/bee
Honeybee - Acute oral LD50	85 µg/bee
Earthworm - Acute LD50	> 500 mg/kg

12.2 Persistence and degradability:

Mepiquat Chloride (CAS: 24307-26-4)

Soil (DT50) 4.9–74.5 d (lab, aerobic, 7 soil types)
 Hydrolytic Stability (DT50) 30 d (pH 3, 5, 7, 9) (25 °C)
 Photolytic Stability (DT50) stable

Metconazole (CAS: 129531-12-0)

Soil (DT50) 87.7–>1000 d (lab, aerobic, 7 soil types), 49–259 d (field, 6 sites)
 Hydrolytic Stability (DT50) stable (pH 4, 7, 9) (50 °C)
 Photolytic Stability (DT50) 27.5–36.3 d (pH 5, 7, 9) (25 °C)

12.3 Bioaccumulative potential:

Mepiquat Chloride (CAS: 24307-26-4)

Since the logPow for mepiquat-chloride is -3.45, the potential for bioaccumulation is considered as negligible.

Metconazole (CAS: 129531-12-0)

Metconazole not considered to be a very persistent, very bioaccumulative substance according to point 3.7.3 of Annex II of Regulation (EC) 1107/2009.

12.4 Mobility in the soil:

Mepiquat Chloride (CAS: 24307-26-4)

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Slight to high mobility (Kfoc = 67-4833 mL/g)

Metconazole (CAS: 129531-12-0)

Metconazole exhibited low mobility in soil.

12.5 Results of PBT and vPvB assessment:

This mixture is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects:

Endocrine disrupting properties:

The mixture does not contain components considered to have endocrine disrupting properties endocrine disrupting properties in accordance with Article 57(f) of REACH or the Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or more.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Product:

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging:

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. TRANSPORT INFORMATION

14.1 UN number:

1760

14.2 UN Proper Shipping Name:

ADR/IRD: UN 1760, CORROSIVE LIQUID.N.O.S., 8, PG II

IMDG/IMO: UN 1760, CORROSIVE LIQUID.N.O.S., 8, PG II, MARINE POLLUTANT

IATA/ICAO: UN 1760, CORROSIVE LIQUID.N.O.S., 8, PG II

14.3 Transport hazard class(es).

Class: 8

14.4 Packing group.

Packaging group: II

14.5 Environmental hazards.

Marine pollutant: Yes

14.6 Special precautions for user.

Refer to the label.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Non-hazardous for transport purposes.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.

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Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with local laws.

15.2 Chemical safety assessment

Guidance on handling the product can be found in sections 7 and 8 of this MSDS.

16. OTHER INFORMATION

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

Date of SDS Preparation / Review:	12 June 2025
Version number of SDS:	3.0
Key / Legend to abbreviations and acronyms used:	
AICS - Australian Inventory of Chemical Substances;	LC50 - Lethal Concentration to 50 % of a test population;
ANTT - National Agency for Transport by Land of Brazil;	LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose);
ASTM - American Society for the Testing of Materials;	LogP _{OW} : Lipid-water partition coefficient
Acute Tox. - Acute Toxicity	MARPOL - International Convention for the Prevention of Pollution from Ships;
Aquatic Acute - Hazardous to the aquatic environment — Acute Hazard	Muta. - Germ Cell Mutagenicity
Aquatic Chronic - Hazardous to the aquatic environment — Chronic Hazard	n.o.s. - Not Otherwise Specified;
Asp. Tox. - Aspiration hazard	Nch - Chilean Norm;
bw - Body weight;	NO(A)EC - No Observed (Adverse) Effect Concentration;
BCF - Bioconcentration Factor	NO(A)EL - No Observed (Adverse) Effect Level;
CMR -Carcinogen, Mutagen or Reproductive Toxicant;	NOELR - No Observable Effect Loading Rate;
CPR - Controlled Products Regulations;	NOM - Official Mexican Norm;
Carc - Carcinogenicity	NTP - National Toxicology Program;
DIN - Standard of the German Institute for Standardisation;	NZIoC - New Zealand Inventory of Chemicals;
DSL - Domestic Substances List (Canada);	OECD - Organization for Economic Co-operation and Development;
DT50 - Half-life	OPPTS - Office of Chemical Safety and Pollution Prevention;
ECx - Concentration associated with x% response;	PBT - Persistent, Bioaccumulative and Toxic substance;
ELx - Loading rate associated with x% response;	PICCS - Philippines Inventory of Chemicals and Chemical Substances;
EmS - Emergency Schedule;	(Q)SAR - (Quantitative) Structure Activity Relationship;
ENCS - Existing and New Chemical Substances (Japan);	REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals;
ErCx - Concentration associated with x% growth rate response;	
ERG - Emergency Response Guide;	
Eye Dam. - Serious eye damage/eye irritation	

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Eye Irrit. - Eye irritation	Repr - Reproductive toxicity
Flam.Sol – Flammable Solid	Resp. Sens – Respiratory sensitization
GHS - Globally Harmonized System;	SADT - Self-Accelerating Decomposition
GLP - Good Laboratory Practice;	Temperature;
IARC - International Agency for Research on	SDS - Safety Data Sheet;
Cancer;	STOT RE - Specific target organ toxicity –
IATA - International Air Transport Association;	repeated exposure;
IBC - International Code for the Construction and	STOT SE - Specific target organ toxicity – single
Equipment of Ships carrying Dangerous Chemicals	exposure;
in Bulk;	Skin Sens.: Skin Sensitisation
IC50 - Half maximal inhibitory concentration;	Skin Irrit. - Skin corrosion/irritation
ICAO - International Civil Aviation Organization;	TCSI - Taiwan Chemical Substance Inventory;
IECSC - Inventory of Existing Chemical	TDG - Transportation of Dangerous Goods;
Substances in China;	TSCA - Toxic Substances Control Act (United
IMDG - International Maritime Dangerous Goods;	States);
IMO - International Maritime Organization;	UN - United Nations;
ISHL - Industrial Safety and Health Law (Japan);	UNRTDG - United Nations Recommendations on
ISO - International Organisation for	the Transport of Dangerous Goods;
Standardization;	vPvB - Very Persistent and Very
KECI - Korea Existing Chemicals Inventory;	Bioaccumulative;
Koc - organic carbon-water partition co-efficient;	WES - Workplace Exposure Standard (Worksafe
Kfoc - organic-carbon normalized Freundlich	NZ) WHMIS - Workplace Hazardous Materials
distribution coefficient	Information System