REGLONE

Version	Revision Date:	SDS Number:	Date of last issue: -
8.0	02.04.2025	S152486924	Date of first issue: 02.04.2025

Section 1: Identification

Product name	:	REGLONE
Design code	:	A1412P

Manufacturer or supplier's details

Company	:	Syngenta Crop Protection Limited
Address	:	Level 4, 60 Parnell Road, Parnell Auckland New Zealand
Telephone	:	09 306 1500 (weekdays)
Emergency telephone number	:	0800 POISON (0800 764766) (National Poisons & Hazchem Information Centre) 0800 734 607(Syngenta - 24 hours)
Telefax	:	None

Recommended use of the chemical and restrictions on use

Recommended use	:	Herbicide

Section 2: Hazard identification

GHS Classification

Corrosive to metals	:	Category 1
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 3
Skin irritation	:	Category 2
Specific target organ toxicity - repeated exposure	:	Category 1 (Eyes)
Hazardous to the aquatic environment - acute hazard	:	Category 1
Hazardous to the aquatic environment - chronic hazard	:	Category 1
Hazardous to the environment	:	Hazardous to terrestrial vertebrates

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H372 Causes damage to organs (Eyes) through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H433 Harmful to terrestrial vertebrates.

Precautionary statements :

Prevention:

P234 Keep only in original container.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P314 Get medical advice/ attention if you feel unwell.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P390 Absorb spillage to prevent material damage.
P391 Collect spillage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

Section 3: Composition/information on ingredients

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
diquat dibromide	85-00-7	>= 30 -< 50

Section 4: First-aid measures

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.

If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed : inflammation of the mouth, throat and oesophagus
Gastrointestinal discomfort
Diarrhoea
Harmful if swallowed.
Toxic if inhaled.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.

Notes to physician : Administer either activated charcoal (100g for adults or 2g/kg body weight in children) or Fuller's Earth (15% solution; 1 litre for adults or 15ml/kg body weight in children).
NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit.
Eye contact:- Severe damage may be caused by apparently trivial contact and healing may be delayed. Medical supervision should continue until complete healing has occurred.

Section 5: Fire-fighting measures

Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires

		Alcohol-resistant foam or Water spray
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during fire-fighting	:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx) Bromine compounds
Specific extinguishing methods	:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.
Special protective equipment for firefighters	:	Wear full protective clothing and self-contained breathing apparatus.
Hazchem Code	:	2X

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

Section 7: Handling and storage

Advice on safe handling	:	Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.

Conditions for safe storage : No special storage conditions required.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.

Section 8: Exposure controls/personal protection

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
diquat dibromide	85-00-7	WES-TWA	0.5 mg/m3	NZ OEL
	Further information: Skin sensitiser, Skin absorption			
		WES-TWA (Respirable dust)	0.1 mg/m3	NZ OEL
	Further information: Skin sensitiser, Skin absorption			
		TWA (Inhalable particulate matter)	0.5 mg/m3 (the cation)	ACGIH
		TWA (Respirable particulate matter)	0.1 mg/m3 (the cation)	ACGIH

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Suitable respiratory equipment:
Respirator with a half face mask
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Material	:	Nitrile rubber
Break through time	:	> 480 min
Glove thickness	:	0.5 mm
Remarks	:	Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	:	Tightly fitting safety goggles Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use. Wear as appropriate: Impervious clothing
Protective measures	:	The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should comply with relevant national stdards

Section 9: Physical and chemical properties

Appearance	:	liquid
Colour	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available

Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.2 g/cm3
Solubility(ies)		
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Particle characteristics		
Particle size	:	No data available

Section 10: Stability and reactivity

Reactivity	:	See section "Possibility of hazardous reactions".
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Corrosive in contact with metals
Conditions to avoid	:	No decomposition if used as directed.
Incompatible materials	:	Aluminium

Mild steel
Iron

Hazardous decomposition products : No hazardous decomposition products are known.

Section 11: Toxicological information

Exposure routes : Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Harmful if swallowed.
Toxic if inhaled.

Product:

Acute oral toxicity : LD50 (Rat, female): ca. 550 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): 0.64 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.
Remarks: Nose bleeding and soreness of the throat may result from spray mist o dust trapped on the nasal mucosa.
Based on data from similar materials

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Remarks: Based on data from similar materials

Components:

diquat dibromide:

Acute oral toxicity : LD50 (Rat, female): 399.75 mg/kg
Remarks: Lethal dose for man is approximately 4-6g of diquat (equivalent to approximately 60mg/kg). May cause nausea, vomiting, abdominal pain and diarrhoea within a few hours of swallowing. Ulceration of lips, mouth, throat and intestine may follow within 24-48 hours. Kidney failure and liver damage may occur; in severe cases circulatory collapse; coma or death/cardiac arrest.

Acute inhalation toxicity : LC50 (Rat, male): 0.226 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 792 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

Components:

diquat dibromide:

Species	:	Rabbit
Result	:	Irritating to skin.
Remarks	:	Expert judgement May also cause discoloration, cracking and loss of nails. Normal growth follows without delay.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

Components:

diquat dibromide:

Species	:	Rabbit
Result	:	Eye irritation
Remarks	:	Expert judgement This material has a delayed eye irritation effect. May lead to ulceration of cornea and conjunctival epithelium giving rise to secondary infection. Although healing may be slow, the injury is superficial and with proper medical care recovery will be complete, even in severe cases.

Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.
Remarks	:	Based on data from similar materials

Components:

diquat dibromide:

Species	:	Guinea pig
Result	:	May cause sensitisation by skin contact.

Chronic toxicity

Germ cell mutagenicity

Not classified due to lack of data.

Components:

diquat dibromide:

Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects.

Carcinogenicity

Not classified due to lack of data.

Components:

diquat dibromide:

Carcinogenicity - Assessment	:	No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Not classified due to lack of data.

Components:

diquat dibromide:

Reproductive toxicity - Assessment	:	No toxicity to reproduction, No effects on or via lactation

STOT - single exposure

May cause respiratory irritation.

Components:

diquat dibromide:

Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Causes damage to organs (Eyes) through prolonged or repeated exposure.

Components:

diquat dibromide:

Target Organs	:	Eyes
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Remarks	:	Ocular effects (cataracts) have been reported following long term oral exposure of laboratory animals.

Aspiration toxicity

Not classified due to lack of data.

Section 12: Ecological information

Ecotoxicity

Components:

diquat dibromide:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): Calculated value 10.46 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): Calculated value 2.49 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Navicula pelliculosa (Freshwater diatom)): Calculated value 0.001148 mg/l Exposure time: 96 h NOEC (Navicula pelliculosa (Freshwater diatom)): Calculated value 0.0005945 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	:	100
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): Calculated value 0.04726 mg/l Exposure time: 34 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): Calculated value 0.0504 mg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	100
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 94.33 mg/kg Exposure time: 14 d Remarks: as diquat ion EC50 (Eisenia fetida (earthworms)): Calculated value 9.43 mg/kg Exposure time: 14 d Remarks: as diquat ion
Toxicity to terrestrial organ-	:	LD50 (Anas platyrhynchos (Mallard duck)): 83 mg/kg

isms		Exposure time: 14 d End point: Acute oral toxicity Remarks: as diquat ion LD50 (Apis mellifera (bees)): 13 µg/bee Exposure time: 120 h End point: Acute oral toxicity Remarks: as diquat ion LD50 (Apis mellifera (bees)): 60 µg/bee Exposure time: 120 h End point: Acute contact toxicity Remarks: as diquat ion

Persistence and degradability

Components:

diquat dibromide:

Stability in water	:	Degradation half life: > 30 d Remarks: Persistent in water.

Bioaccumulative potential

Components:

diquat dibromide:

Bioaccumulation	:	Remarks: Low bioaccumulation potential.

Mobility in soil

Components:

diquat dibromide:

Distribution among environmental compartments	:	Remarks: immobile
Stability in soil	:	Dissipation time: 11 - 41 yr Percentage dissipation: 50 % (DT50) Remarks: Persistent in soil.

Other adverse effects

Components:

diquat dibromide:

Results of PBT and vPvB assessment	:	Substance is not persistent, bioaccumulative, and toxic (PBT). Substance is not very persistent and very bioaccumulative (vPvB).

Section 13: Disposal considerations

Disposal methods

Waste from residues	:	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Refer to the product label for specific disposal/recycling information Otherwise, dispose of waste at an approved landfill or other approved facility that will ensure the substance does not exceed the tolerable exposure limit (TEL) or environmental exposure limit (EEL), where relevant, or will treat the substance so that it is rendered no longer hazardous.
Contaminated packaging	:	Empty remaining contents. Triple rinse containers. Add rinsings to spray tank Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Empty containers can be landfilled, when in accordance with the local regulations. Do not re-use empty containers.

Section 14: Transport information

International Regulations

UNRTDG

UN number	:	UN 1760
Proper shipping name	:	CORROSIVE LIQUID, N.O.S. (DIQUAT DIBROMIDE)
Class	:	8
Packing group	:	III
Labels	:	8
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	UN 1760
Proper shipping name	:	Corrosive liquid, n.o.s. (DIQUAT DIBROMIDE)
Class	:	8
Packing group	:	III
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852

IMDG-Code

UN number	:	UN 1760
Proper shipping name	:	CORROSIVE LIQUID, N.O.S. (DIQUAT DIBROMIDE)
Class	:	8

Packing group	:	III
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

NZS 5433

UN number	:	UN 1760
Proper shipping name	:	CORROSIVE LIQUID, N.O.S. (DIQUAT DIBROMIDE)
Class	:	8
Packing group	:	III
Labels	:	8
Hazchem Code	:	2X
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Section 15: Regulatory information

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

HSNO Approval Number

HSR000446
ACVM Registration No. P0001

Tolerable Exposure Limits (TEL)

Not applicable

Environmental Exposure Limits (EEL)

Not applicable

HSW Controls

Certified handler certificate not required.
Tracking hazardous substance not required.
Record keeping is required
Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

Section 16: Other information

Revision Date	:	02.04.2025

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NZ OEL	:	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
NZ OEL / WES-TWA	:	Workplace Exposure Standard - Time Weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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