

SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name: GRAMOXONE 250
Design Code: A12983A
Recommended Use: Herbicide
Company Details: Syngenta Crop Protection Limited
Address: Tower II, Level 7, 110 Symonds Street
Private Bag 92618,
Symonds Street
AUCKLAND
NEW ZEALAND

Telephone number: (weekdays) 09 306 1500 or 0800 333 336
Emergency Telephone number: (24 Hours) 0800 734 607
National Poisons & Hazchem Information Centre : 0800 POISON (0800 764 766)

Section 2: HAZARDS IDENTIFICATION

Hazard classification: 6.1A, 6.3A, 6.4A, 6.9A, 9.1A, 9.3B, 9.4B
Priority Identifier: DANGER
KEEP OUT OF REACH OF CHILDREN

Secondary Identifiers:

- 6.1A = Fatal if inhaled
- 6.1C = Toxic if swallowed
- 6.1E = Maybe harmful if in contact with skin.
- 6.3A = Causes skin irritation
- 6.4A = Causes serious eye irritation
- 6.9A = Causes organ damage from repeated oral exposure at high doses.
- 9.1A = Very toxic to aquatic organisms.
- 9.3B = Toxic to terrestrial vertebrates.
- 9.4B = Toxic to terrestrial invertebrates.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixture:
Chemical Identity of ingredients:

Ingredient	CAS no.	Content (% w/v)
Paraquat (present as paraquat dichloride)	1910-42-5	25
other ingredients determined not to be hazardous	-	to 100%

Section 4: FIRST AID MEASURES

Description of First Aid measures:

General Advice: For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.

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 Doctor or the National Poisons 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 doctor. 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 (if present). Immediate medical attention is required.
If swallowed:	SPEED IS ESSENTIAL. Immediate medical attention is required. If available, give an adsorbent such as activated charcoal, bentonite or Fullers Earth.

Important symptoms and effects, both acute and delayed:

Symptoms:

Symptoms include inflammation of mouth, throat and oesophagus, gastrointestinal discomfort and diarrhoea.

Mild poisoning occurs at < 20 mg paraquat ion/kg body weight and the effects are vomiting and diarrhoea.

Moderate to severe poisoning occurs at 20 – 30 mg paraquat ion/kg body weight and the effects are vomiting, abdominal discomfort, soreness and inflammation of the mouth, throat and oesophagus, difficulty in swallowing and, later, diarrhoea. Ulceration of the lips, mouth, throat and intestine may follow within 24 – 48 hours. Kidney and liver damage may appear 1 – 3 days after exposure. Can cause death by a delayed proliferating fibrosis of the lung within 1 – 3 weeks.

Lethal poisoning occurs at > 30 mg paraquat ion/kg body weight and the effects are nausea and vomiting, and can cause death by multi-organ failure and circulatory collapse within 48 hours.

Indication of any immediate medical attention and special treatment needed:

RAPID TREATMENT IS ESSENTIAL.

Refer to the booklet 'Paraquat Poisoning. A Practical Guide to Diagnosis, First Aid and Hospital Treatment' (www.syngenta.com/pqmedguide/).

Treatment: Ensure airway, breathing and circulation are intact.

Administer either:

activated charcoal (100 g for adults or 2 g/kg body weight in children)

OR

Fuller's Earth (15% solution - 1 litre for adults or 15 mL/kg body weight in children)

NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit.

DO NOT use supplemental oxygen.

Eye splashes from concentrated material should be treated by an eye specialist after initial treatment.

With the possibility of late onset of corneal ulceration it is advised that patients with paraquat eye injuries are reviewed by a specialist the day after first presentation.

Section 5: FIRE-FIGHTING MEASURES

Extinguishing media:

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

Special hazards arising from the substance or mixture:

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.
---	---

Advice for firefighters:

Special protective equipment for firefighters:	Wear full protective clothing and self-contained breathing apparatus.
Hazchem Code:	2X
Further information:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

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 material 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.

Reference to other sections:

Refer to disposal considerations listed in Section 13.
Refer to protective measures listed in sections 7 and 8.

Section 7: HANDLING AND STORAGE

Precautions for Safe handling:

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, including any incompatibilities:

Requirements for storage area and containers:

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 and under lock and key.

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.

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits:

Components	CAS No	Value type (form of exposure)	Control parameters	Basis
paraquat	4685-14-7	TWA (respirable dust)	0.1 mg/m ³	WES

Exposure controls

Engineering measures:

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 Protection:

Eye protection:

Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Tightly fitting safety goggles
Face-shield

Hand protection:

Material:

Impervious, such as 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.

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.

Respiratory protection:

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Suitable respiratory equipment:
Respirator with a particle filter
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.
Filter type:	Particulates type (P)
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 be certified to appropriate standards.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance:	Clear liquid s
Colour:	Dark blue
Odour:	Pungent, characteristic of pyridine base
Odour threshold:	No data
pH value	5 – 6.5, concentration: 1 % w/v
Melting point / freezing point:	No data
Initial boiling point and boiling range:	100°C
Flash point:	Does not flash (aqueous)
Flammability:	Not classified as a flammability hazard
Upper flammability / explosive limits:	No data
Lower flammability / explosive limits	No data
Vapour pressure:	No data
Vapour Density:	No data
Density:	1.1 g/cm ³
Solubility in other solvents:	Soluble in water
Partition co-efficient: n-octanol / water:	log Pow: -4.5 (20°C)
Autoignition temperature	No data
Decomposition temperature:	No data
Dynamic viscosity:	No data
Explosive properties:	Not explosive
Oxidising properties:	The substance or mixture is not classified as oxidizing
Surface tension:	No data
Minimum ignition energy:	No data

Section 10: STABILITY AND REACTIVITY

Reactivity:

See Section: "Possibility of Hazardous Reactions".

Chemical Stability:

The product is stable when used in normal conditions.

Possibility of Hazardous Reactions:

Hazardous reactions: Corrosive in contact with metals.

Conditions to Avoid

No decomposition if used as directed.

Incompatible Materials:

Materials to avoid: aluminium
mild steel
iron

Hazardous Decomposition Products:

Combustion or thermal decomposition will evolve toxic and irritant vapours.

Section 11: TOXICOLOGICAL INFORMATION

HSNO Classifications:

- 6.1A = Fatal if inhaled.
- 6.1C = Toxic if swallowed.
- 6.1E = Maybe harmful if in contact with skin.
- 6.3A = Causes skin irritation
- 6.4A = Causes serious eye irritation
- 6.9A = Causes organ damage from repeated oral exposure at high doses.

Acute toxicity (Similar product)

Swallowed:	LD ₅₀	612 mg/kg (Rat, female) 707 mg/kg (Rat, male)
Dermal absorption:	LD ₅₀	735 mg/kg (Rat, female) 590 mg/kg (Rat, male)
Inhaled:	LC ₅₀ (4 h)	0.02 mg/L (Rat) Method: Calculation method
Aspiration hazard:		Not classified
Respiratory irritation:		Not classified
Skin corrosion / irritation:		IRRITANT (rabbit)
Eye damage / irritation:		IRRITANT (rabbit)
Respiratory or Skin Sensitisation:		NOT A SKIN SENSITISER (guinea pigs)

Chronic / Long Term Effects (active ingredient)

Germ cell mutagenicity:	Animal testing did not show any mutagenic effects.
Carcinogenicity:	No evidence of carcinogenicity in animal studies.
Reproductive toxicity:	No toxicity to reproduction.
Specific Organ toxicity:	<i>Single exposure:</i> The substance or mixture is classified as specific target organ toxicant, single exposure (GHS: category 3) with respiratory tract irritation. <i>Repeated exposure:</i> The substance or mixture is classified as specific target organ toxicant, repeated exposure, Class 6.9A (GHS: category 1). May cause organ damage from repeated oral exposure at high doses.
Narcotic Effects:	Not classified

Section 12: ECOLOGICAL INFORMATION

HSNO Classifications:

- 9.1A = Very toxic to aquatic organisms.
- 9.3B = Toxic to terrestrial vertebrates.
- 9.4B = Toxic to terrestrial invertebrates.

Ecotoxicity Effects – Aquatic (similar product)

Acute toxicity to fish:	LC ₅₀ (96h) = 8.3 mg/L (<i>Oncorhynchus mykiss</i> (rainbow trout))
Toxicity to daphnia and other aquatic invertebrates:	EC ₅₀ (24h) = 6 mg/L (<i>Daphnia magna</i> (water flea))
Toxicity to algae:	E _r C ₅₀ (72 h) = 0.34 mg/L (<i>Pseudokirchneriella subcapitata</i> (green algae))

Ecotoxicity Effects – Terrestrial (active ingredient)	
Toxicity to Birds:	LD ₅₀ (8 d) = 262-380 mg/kg (hens)
Toxicity to soil dwelling organisms:	LC ₅₀ (14 days) = 262-380 mg/kg (earthworms)
Toxicity to Bees:	LD ₅₀ (72 h, oral) = 36 µg/bee LD ₅₀ (72 h, contact) = 150 µg/bee
Persistence and degradability:	
Biodegradability:	Not readily biodegradable.
Stability in water:	Degradation half-life (DT ₅₀): >30 d (clean water) Persistent in clean water Degradation half-life (DT ₅₀): <0.25 d (water-sediment systems) Not persistent in water containing sediment or suspended solids.
Bioaccumulative potential:	
Bioaccumulation:	Does not bioaccumulate.
Mobility in soil:	
Distribution among environmental compartments:	Immobile in soil.
Stability in soil:	DT ₅₀ : 20 y Percentage dissipation: 50% Persistent in soil. Strong adsorption of paraquat to soil minerals and organic matter.
Other adverse effects:	
Results of PBT and vPvB assessment (product):	This substance/mixture contains no components considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher.

Section 13: DISPOSAL CONSIDERATIONS

Product Disposal:	DO NOT contaminate ponds, waterways or ditches with chemical or used containers. DO NOT dispose of waste into sewer. Dispose of this product only by using according to the label. 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.
Container Disposal:	Ensure the container is empty. Triple rinse empty container and add rinsate to the spray tank. Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.

Section 14: TRANSPORT INFORMATION

Rail / Road (NZS 5433)	UN-No:	2922
	Class:	8
	Subsidiary Class:	6.1 (toxic)
	Packaging Group:	III
	Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (Paraquat dichloride)

Sea (IMDG-Code)	UN-No:	2922	
	Class:	8	
	Subsidiary Class:	6.1 (toxic)	
	Packaging Group:	III	
	Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (Paraquat dichloride)	
	EmS Code:	F-A, S-B	
	MARINE POLLUTANT:	Yes	
	Air (IATA)	UN-No:	2922
		Class:	8
		Subsidiary Class:	6.1 (toxic)
Packaging Group:		III	
Proper shipping name:		CORROSIVE LIQUID, TOXIC, N.O.S. (Paraquat dichloride)	
Packing instruction:		856 (cargo aircraft)	
Packing instruction:		852 (passenger aircraft)	
Packing instruction (LQ):		Y841 (cargo and passenger aircraft)	

Section 15: REGULATORY INFORMATION

HSNO Approval Number:	HSR000828
Tolerable Exposure Limit or Environmental Exposure Limit:	No TEL or EEL values are set for this substance at this time
Required Regulatory Controls:	
Certified handler:	Yes
Tracking:	Yes
Record Keeping:	Yes, 9.1A substance
ACVM Registration:	P 110
ACVM Controls:	See www.foodsafety.govt.nz for registration conditions.
International Agreements related to the substance (eg, Montreal Protocol, Stockholm Convention or Rotterdam Convention):	Not applicable

Section 16: OTHER INFORMATION

Date of SDS Preparation / Review:	18 May 2021
Version number of SDS:	9
Key / Legend to abbreviations and acronyms used:	
AICS - Australian Inventory of Chemical Substances;	MARPOL - International Convention for the Prevention of Pollution from Ships;
ANTT - National Agency for Transport by Land of Brazil;	N.O.S. - Not Otherwise Specified;
ASTM - American Society for the Testing of Materials;	Nch - Chilean Norm;
bw - Body weight;	NO(A)EC - No Observed (Adverse) Effect Concentration;
CMR -Carcinogen, Mutagen or Reproductive Toxicant;	NO(A)EL - No Observed (Adverse) Effect Level;
CPR - Controlled Products Regulations;	NOELR - No Observable Effect Loading Rate;
DIN - Standard of the German Institute for Standardisation;	NOM - Official Mexican Norm;
DSL - Domestic Substances List (Canada);	NTP - National Toxicology Program;
ECx - Concentration associated with x% response;	NZIoC - New Zealand Inventory of Chemicals;
ELx - Loading rate associated with x% response;	OECD - Organization for Economic Co-operation and Development;
EmS - Emergency Schedule;	OPPTS - Office of Chemical Safety and Pollution Prevention;
ENCS - Existing and New Chemical Substances (Japan);	PBT - Persistent, Bioaccumulative and Toxic substance;
ErCx - Concentration associated with x% growth rate response;	PICCS - Philippines Inventory of Chemicals and Chemical Substances;
ERG - Emergency Response Guide;	(Q)SAR - (Quantitative) Structure ActivityRelationship;
GHS - Globally Harmonized System;	REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals;
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);

SADT - Self-Accelerating Decomposition Temperature;
SDS - Safety Data Sheet;
TCSI - Taiwan Chemical Substance Inventory;
TDG - Transportation of Dangerous Goods;
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;
WES – Workplace Exposure Standard (Worksafe NZ);
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 test.

This version replaces all previous versions.

PRODUCT NAMES are a trademark or registered trademark of a Syngenta Group Company.