GRAMOXONE 200

Version 10
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT INFORMATION

Product name	:	**GRAMOXONE 200**
Design Code	:	A3879G
Use	:	Herbicide
Company	:	Syngenta Crop Protection AG Postfach CH-4002 Basel Switzerland
Telephone	:	+41 61 323 11 11
Telefax	:	+41 61 323 12 12
Emergency telephone	:	+44 1484 538444
E-mail address	:	safetydatasheetcoordination@syngenta.com

Very toxic

Dangerous for the environment

2. HAZARDS IDENTIFICATION

May be corrosive to metals.
Harmful if swallowed.
Toxic in contact with skin.
Causes skin irritation.
Causes serious eye damage.
Fatal if inhaled.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	EC-No. *(REACH Registration Number)*	Symbol(s)	R-phrase(s)	Concentration
paraquat dichloride	1910-42-5	217-615-7	T+, N	R24/25 R26 R36/37/38 R48/25 R50/53	25.5 % W/W
[1,2,4]triazolo[1,5-a]pyrimidin-5(4H)-one, 2-amino-6-methyl-4-propyl-	27277-00-5	248-383-5	T	R25	0 - 1 % W/W

pyridine, alkyl derives	68391-11-7	269-929-9	Xn	R10 R20/21/22	0 - 1 % W/W
benzenesulfonic acid, dodecyl-, sodium salt	85117-50-6	285-600-2	Xi	R38 R41	10 - 20 % W/W
poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy-	9016-45-9, 127087-87-0		Xn, N	R22 R41 R51/53	1 - 5 % W/W

* Substances for which there are Community workplace exposure limits.
For the full text of the R-phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

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

Inhalation : 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.

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.

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.

Ingestion : SPEED IS ESSENTIAL.
Immediate medical attention is required.
If available, give an adsorbent such as activated charcoal, bentonite or Fullers Earth.

Symptoms : inflammation of the mouth, throat and oesophagus
Gastrointestinal discomfort
Diarrhoea

Medical advice : Refer to the booklet 'Paraquat Poisoning. A Practical Guide to Diagnosis, First Aid and Hospital Treatment' (www.syngenta.com/pqmedguide/).
Administer either activated charcoal (100g for adults or 2g/kgbody 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.

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 corneal ulceration it is advised that patients with paraquat eye injuries are reviewed by an eye specialist the day after first presentation.

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

Extinguishing media which shall not be used for safety reasons : 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.

Special protective equipment for fire-fighters : Wear full protective clothing and self-contained breathing apparatus.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : 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.

Methods for 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).

Additional advice : If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

HANDLING

Advice on safe handling : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using, do not eat, drink or smoke.
For personal protection see section 8.

STORAGE

Requirements for storage areas 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.

Other data : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	Exposure limit(s)		Type of exposure limit	Source
paraquat dichloride	0.08 mg/m3 5 mg/m3	Respirable dust	8 h TWA 8 h TWA	UK HSE ACGIH
[1,2,4]triazolo[1,5-a]pyrimidin-5(4H)-one, 2-amino-6-methyl-4-propyl-	0.02 mg/m3		8 h TWA	SYNGENTA
pyridine, alkyl derives	5 mg/m3	Skin	8 h TWA	SYNGENTA

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.
If airborne mists or vapors are generated, use local exhaust ventilation controls.
Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.
Seek additional occupational hygiene advice.

PERSONAL PROTECTIVE EQUIPMENT

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.

Respiratory protection : A particulate filter respirator may be necessary until effective technical measures are installed.
Protection provided by air-purifying respirators is limited.
Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : Chemical resistant gloves should be used.
Gloves should be certified to an appropriate standard.
Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure.
The breakthrough time of gloves varies according to the thickness, material and manufacturer.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Suitable material
Nitrile rubber

Eye protection : If eye contact is possible, use tight-fitting chemical safety goggles.

Skin and body protection : Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material.
Wash with soap and water after removing protective clothing.
Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.)
Wear as appropriate:
impervious protective suit

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : liquid
Colour : dark blue green
pH : 6.5 - 7.5
Oxidizing properties : not oxidizing

Explosive properties : Not explosive

Density : 1.084 g/cm3
Solubility in other solvents : soluble
in Water

10. STABILITY AND REACTIVITY

Materials to avoid : Aluminium
Mild steel
Iron

Hazardous decomposition products : Combustion or thermal decomposition will evolve toxic and irritant vapors.

Hazardous reactions : Corrosive in contact with metals

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50 male Rat, 707 mg/kg

: LD50 female Rat, 612 mg/kg
The toxicological data has been taken from products of similar composition.
GHS-Classification
Category 4

Acute inhalation toxicity :

Irritating to respiratory system.
Nose bleeding and soreness of the throat may result from spray mist or dust trapped on the nasal mucosa.
GHS-Classification
Category 3

Acute dermal toxicity	:	LD50 male Rat, 590 mg/kg
	:	LD50 female Rat, 735 mg/kg The toxicological data has been taken from products of similar composition. GHS-Classification Category 3
Skin irritation	:	Rabbit: Severely Irritating The toxicological data has been taken from products of similar composition. GHS-Classification Category 2
Eye irritation	:	Rabbit: Moderately irritating The toxicological data has been taken from products of similar composition. GHS-Classification Category 1
Sensitisation	:	guinea pig: Not a skin sensitizer in animal tests. The toxicological data has been taken from products of similar composition. GHS-Classification None
Long term toxicity		
paraquat dichloride	:	Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.
	:	Ocular effects (cataracts) have been reported following long term oral exposure of laboratory animals.
[1,2,4]triazolo[1,5-a]pyrimidin-5(4H)-one, 2-amino-6-methyl-4-propyl-	:	Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

12. ECOLOGICAL INFORMATION

ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)

Stability in water		
paraquat dichloride	:	Degradation half life: > 30 d Paraquat is persistent in water.
Stability in soil		
paraquat dichloride	:	Degradation half life : ca. 20 y Paraquat is persistent in soil.
Mobility		
paraquat dichloride	:	Paraquat is immobile in soil.
Bioaccumulation		
paraquat dichloride	:	Paraquat does not bioaccumulate.

ECOTOXICITY EFFECTS

Toxicity to fish	:	LC50 Oncorhynchus mykiss (rainbow trout), 8.3 mg/l , 96 h Based on test results obtained with similar product. GHS-Classification Category 2
Toxicity to daphnia and other aquatic invertebrates.	:	EC50 Daphnia magna (Water flea), 6 mg/l , 24 h Based on test results obtained with similar product. GHS-Classification Category 2
Toxicity to algae	:	EbC50 Pseudokirchneriella subcapitata (green algae), 0.11 mg/l , 72 h
	:	ErC50 Pseudokirchneriella subcapitata (green algae), 0.34 mg/l , 72 h Based on test results obtained with similar product. GHS-Classification Category 1

13. DISPOSAL CONSIDERATIONS

Product	:	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging	:	Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. TRANSPORT INFORMATION

Land transport

ADR/ RID:

UN-Number:	2922
Class:	8
Labels:	8, 6.1
Packaging group	III
Proper shipping name :	CORROSIVE LIQUID, TOXIC, N.O.S. (PARAQUAT DICHLORIDE)
Environmentally hazardous substance:	Environmentally hazardous substance

Sea transport

IMDG:

UN-Number:	2922
Class:	8
Labels:	8, 6.1
Sub-risks:	6.1
Packaging group:	III
Proper shipping name : (PARAQUAT DICHLORIDE)	CORROSIVE LIQUID, TOXIC, N.O.S.
Marine pollutant :	Marine pollutant

Air transport

IATA-DGR

UN-Number:	2922
Class:	8
Labels:	8, 6.1
Sub-risks:	6.1
Packaging group:	III
Proper shipping name :	CORROSIVE LIQUID, TOXIC, N.O.S. (PARAQUAT DICHLORIDE)

15. REGULATORY INFORMATION

Labelling according to EC Directives

Hazardous components which must be listed on the label:
- paraquat dichloride

Symbol(s)	:	T+	Very toxic
		N	Dangerous for the environment
R-phrase(s)	:	R21/22	Harmful in contact with skin and if swallowed.
		R26	Very toxic by inhalation.
		R36/37/38	Irritating to eyes, respiratory system and skin.
		R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
		R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	:	S 2	Keep out of the reach of children.
		S13	Keep away from food, drink and animal feedingstuffs.
		S20/21	When using do not eat, drink or smoke.
		S35	This material and its container must be disposed of in a safe way.
		S36/37	Wear suitable protective clothing and gloves.
		S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
		S57	Use appropriate container to avoid environmental contamination.
Note	:	The product is classified and labelled in accordance with Directive 1999/45/EC.	
Special labelling of certain preparations	:	To avoid risks to man and the environment, comply with the instructions for use.	

GHS-Labelling

Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 2nd revised edition

Pictogram

Signal Word	:	Danger	
Hazard Statements	:	H290	May be corrosive to metals.
		H302	Harmful if swallowed.
		H311	Toxic in contact with skin.
		H315	Causes skin irritation.
		H318	Causes serious eye damage.
		H330	Fatal if inhaled.
		H335	May cause respiratory irritation.
		H372	Causes damage to organs through prolonged or repeated exposure.
		H410	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	:	P102	Keep out of reach of children.
		P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
		P270	Do no eat, drink or smoke when using this product.
		P273	Avoid release to the environment.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minuts. Remove contact lenses, if present and easy to do. Continue rinsing.
		P314	Get medical advice/attention if you feel unwell.
		P390	Absorb spillage to prevent material damage.
		P391	Collect spillage.
		P501	Dispose of contents/container to .?
Remarks	:	Classified using all GHS hazard classes and categories. Where the GHS contains options, the most conservative option has been chosen. Regional or national implementations of GHS may not implement all hazard classes and categories.	

Hazardous components which must be listed on the label:

- paraquat dichloride

16. OTHER INFORMATION

Further information

Text of R-phrases mentioned in Section 3:

R10	Flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R22	Harmful if swallowed.
R24/25	Toxic in contact with skin and if swallowed.
R25	Toxic if swallowed.
R26	Very toxic by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.