

GRAMOXONE

Version 1

Revision Date 07.04.2009

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

PRODUCT INFORMATION

Product name : GRAMOXONE
Design Code : A3879GN
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.
 Harmful 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.	Symbol(s)	R-pharse(s)	Concentration
paraquat dichloride	1910-42-5	217-615-7	T+, N	R24/25 R26 R36/37/38 R48/25 R50/53	25.7 % W/W
benzenesulfonic acid, dodecyl-, sodium salt	85117-50-6	285-600-2	Xi	R38 R41	5 - 10 % W/W

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amines, C13-15-alkyl, ethoxylated	70955-14-5		Xn	R22 R38 R41	1 - 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

* 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.

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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.

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7. HANDLING AND STORAGE

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.

STORAGE

Requirements for storage areas and containers : 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.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	Exposure limit(s)	Type of exposure limit	Source
paraquat dichloride	0.08 mg/m ³ 5 mg/m ³	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/m ³	8 h TWA	SYNGENTA
pyridine, alkyl derives	5 mg/m ³	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

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- Eye protection** : If eye contact is possible, use tight-fitting chemical safety goggles and a face shield.
- 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** : green to dark green
- pH** : 5 - 9 at 1 % w/v
- Flash point** : > 103 °C at 102.4 kPa Pensky-Martens c.c.
- Oxidizing properties** : not oxidizing
- Explosive properties** : Not explosive
- Density** : 1.073 g/cm³

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
GHS-Classification
Category 4
The toxicological data has been taken from products of similar composition.
- Acute inhalation toxicity** : LC50 Rat, 3.2 - 8.6 µg/l, 4 h
GHS-Classification
Category 1
Derived from components.

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- : 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
 Derived from components.
- Acute dermal toxicity** : LD50 female Rat, 735 mg/kg
 : LD50 male Rat, 590 mg/kg
 GHS-Classification
 Category 4
 The toxicological data has been taken from products of similar composition.
- Skin irritation** : Rabbit: Severely Irritating
 GHS-Classification
 Category 2
 The toxicological data has been taken from products of similar composition.
- Eye irritation** : Rabbit: Moderately irritating
 GHS-Classification
 Category 1
 The toxicological data has been taken from products of similar composition.
- Sensitisation** : guinea pig: Not a skin sensitizer in animal tests.
 GHS-Classification
 None
 The toxicological data has been taken from products of similar composition.
- 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)

- Bioaccumulation** : Paraquat does not bioaccumulate.
- Stability in water** : Degradation half life: > 30 d
 Paraquat is persistent in water.
- Stability in soil** : Degradation half life : ca. 20 y
 Paraquat is persistent in soil.

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Mobility : Paraquat is immobile in soil.

ECOTOXICITY EFFECTS

Toxicity to fish : LC50 *Oncorhynchus mykiss* (rainbow trout), 8.3 mg/l , 96 h
GHS-Classification
Category 2
Based on test results obtained with similar product.

Toxicity to daphnia and other aquatic invertebrates. : EC50 *Daphnia magna* (Water flea), 6 mg/l , 48 h
GHS-Classification
Category 2
Derived from components.

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
GHS-Classification
Category 1
Based on test results obtained with similar product.

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

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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)

Sea transport*IMDG:*

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)

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

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R-phrases(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-phrases(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.

GHS-Labeling

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.
		H312	Harmful 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.	

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Precautionary Statements	:	P102	Keep out of reach of children.
		P270	Do not eat, drink or smoke when using this product.
		P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P284	Wear respiratory 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 minutes. 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.

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

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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.

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

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