



**Permanent Mission of Brazil to the United Nations Office
and other International Organizations in Geneva**

Ch. Louis-Dunant, 15 - 1202- Genève/Switzerland

Phone: (+41) (0) 22 332 5000/Fax: (+41) (0) 22 910 0751

E-mail: mission.brazil@dclbrasgen.org

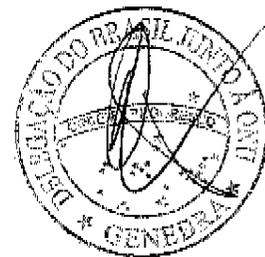
No. 506/10

The Permanent Mission of Brazil to the United Nations Office and other International Organizations in Geneva presents its compliments to the Secretariat of the Rotterdam Convention and has the honour to submit herewith information prepared by the Ministry of Environment on the proposal from Burkina Faso to include in Annex III the severely hazardous pesticide formulation "Gramoxone super".

The Permanent Mission of Brazil avails itself of this opportunity to renew to the Secretariat of the Rotterdam Convention the assurances of its highest consideration.

Geneva, November 26 2010.

To the Secretariat of the Rotterdam Convention
Geneva





SERVIÇO PÚBLICO FEDERAL
MINISTÉRIO DO MEIO AMBIENTE
 SECRETARIA DE MUDANÇAS CLIMÁTICAS E QUALIDADE AMBIENTAL
 DEPARTAMENTO DE QUALIDADE AMBIENTAL NA INDÚSTRIA

Subject: Additional information of the Brazilian Government relating to the severely hazardous pesticide formulation proposal - Paraquat

The Ministry of Environment (MMA), as Designated National Authority to the Rotterdam Convention in Brazil, is providing the additional information of the Brazilian Government relating to the severely hazardous pesticide formulation proposal - Paraquat. The following institutions sent their informations: Brazilian Institute of Environment and Natural Resources (IBAMA), Ministry of Labour and Employment (MTE) and Ministry of Agriculture, Livestock and Food Supply.

INFORMATIONS REQUIRED:

With reference to the formulated product GRAMOXONE SUPER, specified by Burkina Faso, according to data from the box below, we inform that there is no product registered in Brazil by that name.

<i>Country's proposal</i>	<i>Formulation name</i>	<i>AI</i>	<i>IA Concentration</i>	<i>Type of formulation</i>	<i>Use</i>	<i>Reason of proposal</i>
Burkina Faso	GRAMOXONE SUPER	paraquat	200 g/L	(emulsifiable concentrate)	Cotton, rice, corn	Incidents on human health

However, other formulations/products of the considered pesticide are registered in our country, as we inform herein:

Currently, there are five (05) technical grade products (PT) and eight (08) formulated products (PF) containing various concentrations of paraquat or paraquat dichloride. The table below lists these products.

Technical Grade Products (PT)

	<i>Product</i>	<i>Registering Company</i>	<i>Record N°</i>	<i>Active Ingredient</i>	<i>Classification</i>		<i>Concentration</i>
					<i>Toxicology</i>	<i>Environmental</i>	
1	Paraquat Técnico Syngenta	Syngenta Proteção de Cultivos Ltda.	14507	paraquat	I	II	320g/kg
2	Paraquat Técnico Helm	Helm do Brasil Mercantil Ltda	3808	paraquat dichloride	I	II	430g/Kg
3	Paraquat Técnico Sinon	Sinon do Brasil Ltda	7805	paraquat dichloride	I	II	450 g/Kg
4	Paraquat Técnico Zeneca	Syngenta Proteção de Cultivos Ltda.	678498	paraquat	I	II	420 g/kg
5	Paraquat Técnico 500	Cross Link Consultoria e Comércio Ltda.	2108	paraquat dichloride	I	III	431,3 g/Kg

Formulated products (PF) paraquat based with 200 g/l

	Product	Registering Company	Record Nº	Classification	
				Toxicology	Environmental
1	Laredo	Helm do Brasil Mercantil Ltda	13309	I	II
2	Paraquate 200 SL Sinon	Sinon do Brasil Ltda	2110	I	II
3	Tocha	Cross Link Consultoria e Comércio Ltda.	13208	I	II
4	Gramoxil	Syngenta Proteção de Cultivos Ltda.	1248498	II	II
5	Gramoxone 200	Syngenta Proteção de Cultivos Ltda.	1518498	I	II
6	Helmoxone	Helm do Brasil Mercantil Ltda	14908	I	II
7	Paradox	Sinon do Brasil Ltda	5006	I	II
8	Pramato	Agroli Indústria Química Ltda	396	I	III

There are 11 registrations being evaluated from the following companies: Alamos, De Sangosse, Agroimport, Biesterfeld, Similia, Allierbrasil, DVA Agro, CCAB Agro.

Around 8 -10 million liters are sold in Brazil per year. This volume treats 5 -7 milion hectares.

(a) The physico-chemical, toxicological and ecotoxicological properties of the formulation;

Note: The following data were extracted from studies submitted to IBAMA by registrants companies of formulated products specified above, corresponding to the minimum and maximum values observed in these studies.

<i>Formulations's characterization</i>	
PHYSICO-CHEMICAL CHARACTERISTICS	OBSERVATIONS
• Physical state, aspect, color and odour	Liquid, characteristic odour, mostly green coloured.
▪ Miscibility	Soluble in water and methanol and separation of solid material in acetone
• pH	Ranging from 4.32 to 6.65
• Density	Ranging from 1.07 to 1.091 g/mL
• Surface Tension of Solutions	Ranging from 0.0296 to 0.06083 N/m
▪ Viscosity	Ranging from 50 to 390 mPa.s
• Corrosivity	Corrosive to aluminum and steel carbon
• Thermal and air stability	Stable
• Flashpoint	Non-flammable

TOXICITY TO NON-TARGET ORGANISMS	
Acute to microorganisms	No adverse effects on micro-organisms involved in the cycling of carbon and

	nitrogen
Algae	<i>Pseudokirchneriella subcapitata</i> EC ₍₅₀₎ was 0,017 a 5,68mg/L
Soil microorganisms	<i>Eisenia foetida</i> LC ₍₅₀₎ 14 days greater than 1.000 mg/kg
Bees	<i>Apis mellifera</i> from LD ₅₀ between 4.28 to 49.35 µg/bee
Acute to microcrustaceans	<i>Daphnia magna</i> EC ₍₅₀₎ 48 h from 0.8448728 to 61.56 mg/L
Acute to fishes	<i>Brachydanio rerio</i> LC ₍₅₀₎ 96 h: 7.40 to 301,16 mg/L <i>Cyprinus carpio</i> LC ₍₅₀₎ 96 h: above 100 mg/L
Birds – Single dose	<i>Coturnix coturnix japonica</i> LD ₅₀ from 207.63 to 736.5 mg/Kg

TOXICITY TO HIGHER ANIMALS	
Oral Toxicity to rats	LD 50 rats from 162 mg/Kg to 1.019,28 mg/kg
Acute Inhalatory toxicity to rats	LC 50 rats < 0.003 to > 4.6 mg/L
Acute Dermal to rats	DL 50 rats varied from 323.4 mg/Kg to > 4000 mg/Kg
Primary dermal irritation	Varies from little to highly irritating to rabbit skin
Ocular irritation short run (rabbits)	Highly irritating to extremely irritating to rabbits's eyes

GENOTOXIC POTENTIAL	
Procarionts	negative
Eucarionts	negative

(b) The existence of handling or applicator restrictions in other States;

- General Restrictitons:

The use of this herbicide is only allowed on agriculture, for the crops presented in Annex I from this technical note. Some old uses was forbidden, as for gardening (profissional or amateur), for example.

- Restrictions regarding with handling and application

There are restrictions in environmental terms, mainly referring to the climate conditions for the application, in order to avoid the spray drift and any risks of contamination. All this restrictions are described in the products directions for use.

(c) Information on incidents related to the formulation in other States;

No incidents with Paraquat 200g/L formulation were reported to the Ministry of Agriculture.

According to the intoxication databasc of the leading manufacturer in Brazil (Syngenta Proteção de Cultivos Ltda.), 9 occupational cases were reported in 2008 and 3 occupational cases in 2009 for Paraquat 200 g/L. Considering that per year 8 -10 million liters are sold in Brazil to treat 5 -7 milion hectares, the incidence of occupation cases is very low.

The RTRS - Round Table on Responsible Soybean - is a global association that promotes the responsible soybean production, has recently appointed Paraquat as a tool to manage weeds on its recommendation for Good Agricultural Practices.

(d) Information submitted by other Parties, international organizations, non governmental organizations or other relevant sources, whether national or international;

(e) Risk and/or hazard evaluations, where available;

Regarding with the *environmental classification*, Brazil has four classes: I – Product highly hazardous to the environment; II – very hazardous to the environment; III – hazardous to the environment and IV – slightly hazardous. We verified that the most part of the paraquat formulations in the 200 g/L concentration is in class II of this criteria.

However, Paraquat 200 g/L is classified as Class I – Extremely toxic - by Ministry of Health, based on the *toxicological classification* (eye irritation cut-off criteria).

As with all chemicals, including pesticides such as paraquat, care must be taken to minimize human exposure. Safety instructions on the product label must be read and appropriate personal protective equipment (PPE), gloves, boots, face shields, etc, worn when handling and spraying paraquat-based products. Any spills of undiluted product should be washed off the skin immediately and body, clothes and equipment thoroughly washed as normal after spraying. Provided this care is applied and the product is used as directed, there is no risk to human safety with the use of paraquat.

The Ordinance number 31 – Occupational Health and Safety in Agriculture (issued in 05/march/2005) of the Ministry of Labour and Employment, in the item 31.8, describes the obligations of collective, administrative and individual measures in the use of pesticides in agriculture. Among others measures, includes that workers must be trained on the hazards, risks, preventive measures, storage, handling, first-aid, etc. of the pesticides and related information should be available. All occupational accidents with pesticides should be investigated and preventive measures adopted by the employer. Health surveillance of the workers is also another item for compliance.

The mentioned Ordinance applies for the pesticide PARAQUAT

Syngenta, the leading manufacturing company in Brazil, carried out risk assessments with razil (aerial, tractor and backpack equipment). All occupational handler scenarios evaluated in this document demonstrated acceptable exposure risk ($MOE \geq 100$) for agricultural workers exposed to the formulations. The consumer exposure risk assessment was also conducted including all the Brazilian crops described at the ANVISA monograph and it demonstrated acceptable exposure risk to the general population. Under normal use conditions, paraquat does not accumulate in the food chain because it is not stored or accumulated in the body. Residues present no risk to consumers.

As with all chemicals, including pesticides such as paraquat, care must be taken to minimize human exposure. Safety instructions on the product label must be read and appropriate personal protective equipment (PPE), gloves, boots, face shields, etc, worn when handling and spraying paraquat-based products. Any spills of undiluted product should be washed off the skin immediately and body, clothes and equipment thoroughly washed as normal after spraying. Provided this care is applied and the product is used as directed; there is no risk to human safety with the use of paraquat.

Syngenta, the leading manufacturing company in Brazil, carried out risk assessments with formulations containing 200g/L Paraquat to assess the occupational exposure risk from for agricultural handlers mixing, loading, and/or applying the products to agricultural crops according to the labels recommendation. The occupational assessments were determined for

typical use scenarios in Brazil (aerial, tractor and backpack equipment). All occupational handler scenarios evaluated in this document demonstrated acceptable exposure risk ($MOE \geq 100$) for agricultural workers exposed to the formulations. The consumer exposure risk assessment was also conducted including all the Brazilian crops described at the ANVISA monograph and it demonstrated acceptable exposure risk to the general population. Under normal use conditions, paraquat does not accumulate in the food chain because it is not stored or accumulated in the body. Residues present no risk to consumers.

(f) Indications, if available, of the extent of use of the formulation, such as the number of registrations or production or sales quantity;

(g) Other formulations of the pesticide in question, and incidents, if any, relating to these formulations;

The paraquat formulation register as pesticide in Brazil are:-----

- 200 g Paraquat /L (SL);
- 200g Paraquat/L + 100 g Diuron/L (SC); and
- 30g Paraquat/L + 48 g Bentazona/L (SL) – This formulation is not commercialized in Brazil nowadays.

(h) Alternative pest-control practices;

There are not many non-selective herbicides that control such a broad range of weeds as paraquat. The alternatives are more expensive and do not deliver the same advantages as paraquat, for instance: if rainfall a few minutes after spraying of paraquat little or no detrimental effect on the performance will be seen on field.

In Brazil we use a conservationist system called “plantio direto” (no till) that is directly dependent of non selective herbicides as glyphosate and paraquat, as the glyphosate weed resistance have been increasing, paraquat is a very important tool for Brazilian farmers.

(i) Other information which the Chemical Review Committee may identify as relevant.



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1202 – Geneva / Switzerland

Phone: (+41) (0)22 332 50 00 / Fax: (+41) (0)22 910 07 51

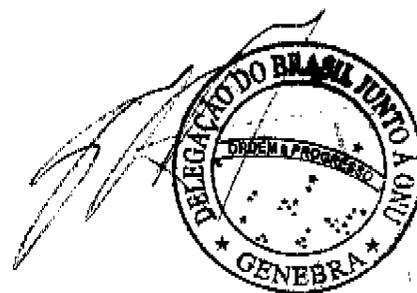
E-mail: mission.brazil@delbrasgen.org

No. 37/11

The Permanent Mission of Brazil to the United Nations Office and other International Organizations in Geneva presents its compliments to the Secretariat of the Rotterdam Convention and, with reference to Note Verbale 506/2010, has the honour to submit herewith complimentary information prepared by the Ministry of Environment on the proposal from Burkina Faso to include in Annex III the severely hazardous pesticide formulation “Gramoxone super”.

The Permanent Mission of Brazil avails itself of this opportunity to renew to the the the Secretariat of the Rotterdam Convention the assurances of its highest consideration.

Geneva, January 19, 2011



To the Secretariat of the Rotterdam Convention

Geneva



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MINISTÉRIO DO MEIO AMBIENTE
SECRETARIA DE MUDANÇAS CLIMÁTICAS E QUALIDADE AMBIENTAL
DEPARTAMENTO DE QUALIDADE AMBIENTAL NA INDÚSTRIA

Subject: Complementation of the information sent by the Brazilian Government relating to the severely hazardous pesticide formulation proposal - Paraquat

The Ministry of Environment (MMA), as Designated National Authority to the Rotterdam Convention in Brazil, is providing more informations relating to the severely hazardous pesticide formulation proposal – Paraquat, sent by the Ministry of Development, Industry and Foreign Trade.

Complementary Informations, pursuant to Paragraph 3 of Article 6 of the Rotterdam Convention:

(d) Information submitted by other Parties, international organizations, nongovernmental organizations or other relevant sources, whether national or international;

According to the Brazilian Association of Chemical Industry (ABIQUIM), Paraquat belongs to the class of pesticides most stable and persistent in soil and has been used in Brazil for over 40 years. It was the first technology that allowed the creation and adoption of direct tillage in Brazil.

According to the National Association of Industrial Products for Agricultural Defense (SINDAG), the main use of Paraquat occurs in conservation systems such as direct tillage and minimum tillage which depend on proper chemical control of weeds. It is also used before and after planting and in some cultures in pré-harvest, in order to control weeds and cause defoliation of culture; a procedure that facilitates the work of chopping and anticipates the harvest, with reduction of losses from fungi and pests that affect the crop at harvest.

(f) Indications, if available, of the extent of use of the formulation, such as the number of registrations or production or sales quantity;

According to the Ministry of Development, Industry and Foreign Trade, Paraquat is an herbicide that is used in widespread in perennial crops (directed spray), cotton and maize (the leading management), soybeans (desiccation). This product is an important tool in integrated weed management, such as those resistant to glyphosate.

According to the SINDAG the total installed capacity in Brazil for the formulated product is 30, 5 million liters,

The table below presents the values obtained for the import and export of active principle (NCM 2933.39.84) and the formulated product (NCM 3808.93.25) during the period of 2008/2009.

Brazilian Imports and Exports of Paraquat in the period of 2008/2009

NCM	2008		2009	
	Imports (KG)	Exports (KG)	Imports (KG)	Exports (KG)
2933.39.84	2.883.054	0	8.570.222	0
3808.93.25	989.693	1.642.024	3.035.500	1.518.565
TOTAL	3.872.747	1.642.024	11.605.722	1.518.565

Source: Alice System – MDIC

As regards the destination of Brazilian Exports we stress that those of the active principle did not exist in 2008/2009 period, while exports for the formulated product were made primarily to Argentina, Bolivia, Chile, Paraguay, Uruguay and Taiwan.

With regard to the origins of Brazilian Imports as it is emphasized that the active principle were from the United Kingdom, China and Germany, while referring to the formulated product, were made from: Taiwan, China, Argentina and Israel _____

(h) Alternative pest-control practices:-

According to the Ministry of Development, Industry and Foreign Trade, there is no adequate substitute to Paraquat with regard to technical and financial factors in case of replacing the product. It is estimated an increase of about 30% in costs due to replacement.