PROCEDURE FOR EXCEPTIONAL PESTICIDE USE



Sustainable Agriculture Network

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SAN Mission

To be a global network transforming agriculture into a sustainable activity.

SAN Vision

A world where agriculture contributes to the conservation of biodiversity and sustainable livelihoods.

SAN Pesticide Management concept

The new SAN pesticide management requirements of the 2017 SAN Sustainable Agriculture Standard are based on a stronger integrated pest management (IPM) approach and the regulation of 320 pesticide active ingredients. This regulation includes the prohibition of 125 pesticides covered by the WHO/FAO framework of Highly Hazardous Pesticides, the prohibition of 25 obsolete substances and specific risk management requirements for an additional set of 170 active ingredients.

The standard ensures pesticide risk reduction through several significant changes that raise the bar for certification in health, environmental protection and sustainable crop and cattle production. The amount of pesticide applied by certified farms is expected to go down as a result of rigorous implementation of new IPM criteria, backed up by training for auditors, and opportunities for better technical support. And for the first time, a state-of-the-science risk assessment process connects individual pesticides to risk mitigation practices for the protection of human bystanders, pollinators, vertebrate wildlife and aquatic life. The most egregious health and environmental risks will be eliminated by adoption of an extended version of the WHO/FAO Highly Hazardous Pesticide classification to define SAN prohibited substances.

The prohibition of pesticides is framed in the following criterion:

• <u>Critical Criterion 3.4:</u> The use of substances included in the SAN List of Prohibited Pesticides is prohibited. Only pesticides that are legally registered in the production country are used. The use of agriculture mineral oils is only allowed, if these contain less than 3% of Dimethyl Sulfoxide (DMSO) residues.

The results of SAN Public Consultations and field trials have demonstrated that agriculture and cattle producers still widely use 26 of the 125 substances included in the **SAN Prohibited Pesticide List** for the effective control of nematodes, rodents, weeds, fungi or insects, that less toxic alternatives are still not registered in many production countries or that more effective and less toxic alternatives have not been developed yet.

SAN Procedure for Exceptional Pesticide Use

Based on SAN public consultation results, SAN developed a Procedure for Exceptional Pesticide Use which grants justified and exceptional use for at least 26 of 125 substances included in the SAN List of Prohibited Pesticides. The exceptions will be authorized based on the control of specific pest species and will apply uniformly at country-level and for specific crops or cattle production systems.

- The exceptional use of these specific substances is authorized, if
 - o Evidence is provided that other less toxic but effective pesticides to control this pest species (not prohibited by the SAN Prohibited Pesticide List) are not registered in the specific country; and
 - o Specific SAN risk management requirements are fully complied with.
- If farms or group administrators use these authorized substances, but do not comply with or only partially comply
 with specific SAN risk management requirements, this fact will be considered as a non-conformity against critical
 criterion 3.4 of the SAN 2017 Sustainable Agriculture Standard.

SAN has determined that the following 26 substances¹ are subject to the Procedure for Exceptional Pesticide Use:

Pesticide	CAS number	WHO la	WHO Ib	GHS repro 1A 1B	Pollinator Impact
Borax; disodium tetrabo- rate decahydrate	1303-96-4			•	
2) Boric acid	10043-35-3			•	
3) Brodifacoum	56073-10-0	•			
4) Bromadiolone	28772-56-7	•		•	
5) Bromethalin	63333-35-7	•			
6) Cadusafos	95465-99-9		•		
7) Carbendazim	10605-21-7			•	
8) Chlorophacinone	3691-35-8	•		•	
9) Clothianodin	210880-92-5				•
10) Difethialone	104653-34-1	•		•	
11) Diphacinone	82-66-6	•			
12) Epoxiconazole	133855-98-8			•	
13) Ethoprophos; Ethoprop	13194-48-4	•			

¹ The columns of this table define the main risks posed by the active ingredients listed. This table does not include all the active ingredients in the particular risk category denoted by the column headings.

Pesticide	CAS number	WHO la	WHO Ib	GHS repro 1A 1B	Pollinator Impact
14) Fenamiphos	22224-92-6		•		
15) Fipronil	120068-37-3				•
16) Fluazifop-butyl	69806-50-4			•	
17) Glufosinate-ammonium	77182-82-2			•	
18) Imidacloprid	138261-41-3				•
19) Oxamyl	23135-22-0		•		
20)Quizalofop-p-tefuryl	119738-06-6			•	
21) Strychnine	57-24-9		•		
22) Terbufos	13071-79-9	•			
23) Thiamethoxam	153719-23-4				•
24) Tridemorph	81412-43-3			•	
25) Warfarin	81-81-2		•	•	
26) Zinc phosphide	1314-84-7		•		

- 1. Requests for additional exceptional uses to those already authorized for the 26 substances and related specific crops, production systems or country uses established in the Annex: Authorized Uses for Specific Crops and Countries should be sent to s&p@san.ag before March 31, 2017 with a comprehensive justification including:
 - a. Country and Region;
 - b. Name of the active ingredient of the pesticide;
 - c. Name of the commercial product in use;
 - d. Common and scientific names of the pest species to be controlled;
 - e. Crop or pasture (cattle production system);
 - f. Evidence that the specific pest species cannot be prevented by cultural, manual or other non-chemical methods;
 - g. Evidence that other effective pesticides to control this pest species not prohibited by the SAN Prohibited Pesticide List are not registered by the local authority in the specific country.
- 2. If the required section 1 information is sent complete, the SAN Secretariat will have a period of 90 days to rule on the request.

- 3. If the SAN Secretariat acknowledges the request, it will authorize the exceptional use under the following conditions:
 - a. It will apply only for the control of the requested pest species, to the specific crop or pasture (cattle production system) and country or region; and
 - b. It is granted only under the condition of full compliance with the specific SAN Risk Management Requirements; and
 - c. As of March 31, 2017 onwards, exceptions will be granted for a three-year period with possible extension subject to analysis.
- 4. An extension beyond this first three-year period may be granted under the following conditions:
 - a. The reasons for authorizing the exceptional use to use a prohibited pesticide prevail;
 - b. The information according to 1.a) 1.g) is updated and sent to s&p@san.ag before October 31, 2019.

This SAN Procedure for Exceptional Pesticide Use will be analyzed regularly by SAN technical committees. Based on this analysis, SAN may eliminate or add substances, crop or country scopes for exceptional pesticide use in future versions of this document.

Specific SAN Risk Management Requirements

1. SAN Nematicide Risk Management Requirements

The five nematicides cadusafos, ethoprop, fenamiphos, oxamyl and terbufos may be used only if the following SAN nematicide risk management requirements are fully implemented:

- a) Lower toxicity nematicides are used as part of the rotation for nematicides resistance management; and
- b) Application methods place the product precisely within the plant root zone or use tree injection. Uncovered application of granules is prohibited in SAN non-application zones²; and
- c) Daily maximum application time is limited to six hours. For two shifts with bathing to wash off residues from the pesticide handler, the total daily maximum application time is limited to 4 hours plus 2 hours = 6 hours; and
- d) Application is conducted during the coolest hours of the day; and
- e) Annual medical monitoring of applicator health (kidney and liver function) is provided; and
- f) Cholinesterase levels of workers are tested, if they use the organophosphates ethoprop or terbufos or the carbamate oxamyl. Tests are conducted prior to the first time workers apply these substances on the farm and periodically thereafter as long as they remain assigned to this task. Other work that does not involve use of these five substances is offered to those organophosphate or carbamate pesticide handlers with results outside of the accepted cholinesterase levels.

Pesticide	CAS number	WHO la	WHO Ib
1) Cadusafos	95465-99-9		•
2) Ethoprophos; Ethoprop	13194-48-4	•	
3) Fenamiphos	22224-92-6		•
4) Oxamyl	23135-22-0		•
5) Terbufos	13071-79-9	•	

² SAN non-application zones: The distance in meters indicate the width of the non-application zone between pesticide applied crops and areas of human activity, or aquatic and terrestrial natural ecosystems:

^{1) 5} meters, if applied by knapsack sprayers;

^{2) 10} meters, if applied by motorized sprayers or spray booms depending on the equipment's technical specifications.

2. SAN Rodenticide Risk Management Requirements

The nine rodenticides brodifacoum, bromadiolone, bromethalin, chlorophacinone, difethialone, diphacinone, strychnine, warfarin and zinc phosphide may be used only if the following SAN rodenticide risk management requirements are fully implemented:

- a) Only formulated rodenticides baited traps classified as moderately toxic (blue label) or slightly toxic (green label) are used: and
- b) Rodenticide traps are only used, if rodent monitoring demonstrates that mechanic control methods are not effective; and
- c) Signs of rodent activity (droppings, tracks, gnaw marks, burrows) are monitored and the results recorded. Traps are inspected daily and bait stations and installations weekly; and
- d) Bait stations are tamper-resistant, anchored, and constructed in such a manner and size as to permit only the entrance of rodents; and
- e) Food sources attracting rodents and debris are eliminated; and
- f) Rodent carcasses are handled with gloves and buried in locations that do not pose risk to human health or water contamination; and
- g) Bait stations are removed and the amount of stations diminished when there are no longer signs of rodent feeding or there is evidence of use by non-target wildlife.

Pesticide	CAS number	WHO la	WHO lb	GHS repro 1A 1B
1) Brodifacoum	56073-10-0	•		•
2) Bromadiolone	28772-56-7	•		•
3) Bromethalin	63333-35-7	•		
4) Chlorophacinone	3691-35-8	•		•
5) Difethialone	104653-34-1	•		•
6) Diphacinone	82-66-6	•		
7) Strychnine	57-24-9		•	
8) Warfarin	81-81-2		•	•
9) Zinc phosphide	1314-84-7		•	

3. SAN Requirements for Mitigating Risks for Pollinators

Until June 30, 2020 the use of the three neonicotinoids clothianodin, imidacloprid, thiamethoxam, and the phenylpyrazole fipronil is only permitted if the following **SAN pollinator risk management requirements** are fully implemented:

- a) Less toxic, efficacious pesticides are not available; and
- b) Exposure to natural ecosystems is minimized by complying with SAN non-application zones or by establishing vegetative barriers compliant with SAN parameters for vegetative barriers or by implementing other effective mechanisms to reduce spray drift; and
- c) Contact of pollinators with these substances is further reduced through:
 - i. Substances are applied only when pollinators are not active; or
 - ii. Substances are not applied to flowering weeds or flowering weeds are removed; and
 - iii. Substances are applied while the crop is not in peak flowering period.
 - *i* Not applicable to Banana, cocoa, grapes, lemon grass, pineapple, psyllium, sugar cane, and tea.
- d) If bee hives are used, they are temporarily covered during application, and hive bees are provided with a clean water source outside the treated area.

Pesticide	CAS number	Pollinator Impact
1) Clothianodin	210880-92-5	•
2) Fipronil	120068-37-3	•
3) Imidacloprid	138261-41-3	•
4) Thiamethoxam	153719-23-4	•

4. SAN Reproductive Toxicity Risk Management Requirements

The use of the eight substances categorized as GHS repro 1A/1B (Pesticide active ingredients and their formulations that meet the criteria of reproductive toxicity Categories 1A and 1B of the Globally Harmonized System on Classification and Labelling of Chemicals) Borax, Boric acid, Carbendazim, Epoxiconazole, Fluazifop-butyl, Glufosinate-ammonium, Quizalofop-p-tefuryl and Tridemorph is only permitted if the following SAN reproductive toxicity risk management requirements are fully implemented:

- a) Less toxic, efficacious pesticides are not available; and
- b) Use is part of the product rotation defined in the integrated pest management plan; and
- c) Women of reproductive age (15 50 years) do not apply GHS repro 1A/1B pesticides; and
- d) Restricted Entry Intervals (REI) are implemented for persons entering pesticide application areas without PPE that are at least 12 hours or as stipulated in the product's MSDS, label or security tag, whichever is more stringent. For WHO class II products, the REI is at least 48 hours. When two or more products with different REIs are used at the same time, the longest interval applies; and
- e) Workers that apply GHS repro 1A/1B pesticides are provided with medical examinations as specified in the Occupational Health and Safety plan (see Critical Criterion 4.14); and
- f) Potentially affected persons or communities are identified, alerted, and warned in advance about pesticide applications and prevented from access to pesticide application areas; and
- g) Farms establish and maintain non-crop vegetative barriers compliant with SAN parameters for vegetative barriers or SAN non-application zones between pesticides applied crops and areas of human activity.

Presticide	CAS number	GHS repro 1A 1B
1) Borax; disodium tetraborate decahydrate	1303-96-4	•
2) Boric acid	10043-35-3	•
3) Carbendazim	10605-21-7	•
4) Epoxiconazole	133855-98-8	•
5) Fluazifop-butyl	69806-50-4	•
6) Glufosinate-ammonium	77182-82-2	•
7) Quizalofop-p-tefuryl	119738-06-6	•
8) Tridemorph	81412-43-3	•

Annex: Authorized Uses for Specific Crops and Countries

From July 1, 2017 onwards, SAN authorizes the use of the following active ingredients only for the specific control of the indicated pest species, countries, and specific crops or production systems and only, if the conditions specified in the last column to the right are implemented as determined in the following table. Under the specified conditions, these substances may be used immediately and without additional SAN secretariat authorization processes:

Pesticide	CAS number	Pest Species	Countries	Crop or Production System	Condition
Borax; disodium tetraborate decahydrate	1303-96-4	N/A	Costa Rica, India	Crops / production systems authorized for SAN certification	Only as fertilizer in soils with boron deficiency; SAN Reproductive Toxicity Risk Management Requirements
Boric acid	10043-35-3	N/A	Costa Rica, India	Crops / production systems authorized for SAN certification	Only as fertilizer in soils with boron deficiency; SAN Reproductive Toxicity Risk Management Requirements
		Ants (Formicidae)	Costa Rica, Honduras, Panama, Ecuador, Guatemala	Pineapple (Ananas comosus)	SAN Reproductive Toxicity Risk Management Requirements
Brodifacoum	56073-10-0	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements
Bromadiolone	28772-56-7	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements
Bromethalin	63333-35-7	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements

Pesticide	CAS number	Pest Species	Countries	Crop or Production System	Condition
Cadusafos	95465-99-9	Nematode (Radopholus similis)	Belize, Brazil, Cameroon, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Ivory Coast, Malawi, Mexico, Nicaragua, Panama, Peru, Philippines	Banana (Musα sp.)	SAN Nematicide Risk Management Requirements
			Costa Rica	Coffee (Coffea sp.)	
Carbendazim	10605-21-7	Fusarium sp.	Costa Rica, Ecuador, Honduras, Panama, Guatemala	Pineapple (Ananas comosus)	SAN Reproductive Toxicity Risk Management Requirements
Chlorophacinone	3691-35-8	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements
Clothianidin	210880-92-5	Tea mosquito (Helopeltis theivora), moth (Mocis frugalis), aphids or green fly (Aphidoidea), leafhopper or jassid (Cicadellidae)	India	Tea (Camellia sinensis)	SAN Requirements for Pollinator Risk Mitigation
Difethialone	104653-34-1	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements
Diphacinone	82-66-6	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements

Pesticide	CAS number	Pest Species	Countries	Crop or Production System	Condition
Epoxiconazole	133855-98-8	Black Sigatoka (Mycosphaerella fijiensis), yellow Sigatoka (Mycosphaerella musicola)	Belize, Brazil, Cameroon, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Ivory Coast, Malawi, Mexico, Nicaragua, Panama, Peru, Philippines	Banana (<i>Musa</i> sp.)	SAN Reproductive Toxicity Risk Management Requirements
		Coffee rust (Hemileia vastatrix)	Costa Rica	Coffee (Coffea sp.)	
Ethoprophos; Ethoprop	13194-48-4	Nematode (Radopholus similis)	Belize, Brazil, Cameroon, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Ivory Coast, Malawi, Mexico, Nicaragua, Panama, Peru, Philippines	Banana (<i>Musa</i> sp.)	SAN Nematicide Risk Management Requirements
			Costa Rica	Coffee (Coffea sp.)	
Fenamiphos	22224-92-6	Nematode (Radopholus similis)	Belize, Brazil, Cameroon, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Ivory Coast, Malawi, Mexico, Nicaragua, Panama, Peru, Philippines	Banana (Musa sp.)	SAN Nematicide Risk Management Requirements
			Costa Rica	Coffee (Coffea sp.)	

Pesticide	CAS number	Pest Species	Countries	Crop or Production System	Condition	
		Ants (Formicidae) and termites (Isoptera)	Cameroon, Ivory Coast, Ghana, Nigeria	Cocoa (Theobroma cacao)	Only use of solid baits permitted if SAN Requirements	
Fipronil	120068-37-3 (Formicidae) and termites		(Formicidae) and termites	120068-37-3 (Formicidae) and termites	Brazil	Pasture for cattle implemented use of liquid formulations
Fluazifop-butyl	69806-50-4	Weeds	Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Peru, Panama	Banana (Musa sp.), Coffee (Coffea sp.)	SAN Reproductive Toxicity Risk Management Requirements	
Glufosinate- ammonium	77182-82-2	Broad-leaf weeds	Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Ivory Coast, Panama, Perú	Banana (<i>Musa</i> sp.)	SAN Reproductive Toxicity Risk Management Requirements	
		Coffee berry borer (Hypothenemus hampei)	Costa Rica, Honduras	Coffee (Coffea sp.)		
Imidacloprid	138261-41-3	Mirids (Sahlbergella singularis, Distantiella theobroma)	Cameroon, Ghana, Ivory	Cocoa (Theobroma cacao)	SAN Requirements for Pollinator Risk	
			Coast, Nigeria	Banana (<i>Musa</i> sp.)	Mitigation	
	N S	Mealybugs / scale insects (Coccoidea)	Costa Rica, Honduras	Pineapple (Ananas comosus)		

Pesticide	CAS number	Pest Species	Countries	Crop or Production System	Condition
Oxamyl	23135-22-0	Nematode (Radopholus similis)	Belize, Brazil, Cameroon, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Ivory Coast, Malawi, Mexico, Nicaragua, Panama, Peru, Philippines	Banana (<i>Musα</i> sp.)	SAN Nematicide Risk Management Requirements
			Costa Rica	Coffee (Coffea sp.)	
Quizalofop-p- tefuryl	119738-06-6	Weeds	Costa Rica, Ecuador, Guatemala, Honduras, Panama	Coffee (Coffea sp.), Pineapple (Ananas comosus)	SAN Reproductive Toxicity Risk Management Requirements
Strychnine	57-24-9	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements
Terbufos	13071-79-9	Nematode (Radopholus similis), weevil (Curculionoidea)	Belize, Brazil, Cameroon, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Ivory Coast, Malawi, Mexico, Nicaragua, Panama, Peru, Philippines	Banana (<i>Musa</i> sp.)	SAN Nematicide Risk Management Requirements
			Costa Rica	Coffee (Coffea sp.)	

Pesticide	CAS number	Pest Species	Countries	Crop or Production System	Condition
Thiamethoxam	153719-23-4	Red spider mite (Tetranychus urticae), mealybugs / scale insects (Coccoidea)	Cameroon, Ivory Coast, Ghana, Nigeria	Cocoa (Theobroma cacao)	SAN Requirements for Pollinator Risk Mitigation
		Coffee berry borer (Hypothenemus hampei)	Brazil	Coffee (Coffea sp.)	
		Tea mosquito (Helopeltis theivora), moth (Mocis frugalis), aphids or green fly (Aphidoidea), leafhopper or jassid (Cicadellidae)	India	Tea (Camellia sinensis)	
Tridemorph	81412-43-3	Black Sigatoka (Mycosphaerella fijiensis), Yellow Sigatoka (Mycosphaerella musicola)	Ivory Coast, Honduras	Banana (<i>Musa</i> sp.)	SAN Reproductive Toxicity Risk Management Requirements
Warfarin	81-81-2	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements
Zinc phosphide	1314-84-7	Rodents (Mus sp. & Rattus sp.)	Countries authorized for SAN certification	Crops / production systems authorized for SAN certification	SAN Rodenticide Risk Management Requirements