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Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
Chemical Review Committee
Fourth meeting
Geneva, 10–13 March 2008
Item 5 (b) (ii) of the provisional agenda*

Inclusion of chemicals in Annex III of the Rotterdam Convention: review of notifications of final regulatory action to ban or severely restricted a chemical: aldicarb

Aldicarb

Note by the Secretariat

1. Article 5 of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade provides that when the Secretariat has received at least one notification from each of two prior informed consent (PIC) regions regarding a particular chemical that it has verified meet the requirements of Annex I to the Convention it shall forward them to the Chemical Review Committee. The Committee shall review the information provided in such notifications and, in accordance with the criteria set out in Annex II, recommend to the Conference of the Parties whether the chemical in question should be included in Annex III and a decision guidance document drafted.

2. The Secretariat has received notifications relating to aldicarb that meet the information requirements of Annex I from two different PIC regions (Europe (European Community) and Latin America and the Caribbean (Jamaica)). Summaries of those notifications were included in PIC Circular XIX of June 2004 and PIC Circular XXVI of December 2007, respectively. The notifications, as received from the notifying countries, are contained in the annex to the present note.

3. Where available, the supporting documentation provided by the European Community and Jamaica is set out in documents UNEP/FAO/RC/CRC.10/Add.1 and Add.2, respectively.

4. A list of other notifications previously considered by the Chemical Review Committee is set out in document UNEP/FAO/RC/CRC 4/INF/5.

* UNEP/FAO/RC/CRC.4/1

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Annex

Notification of final regulatory action for aldicarb by European Community

Notification of final regulatory action for aldicarb by Jamaica

Interim Secretariat for the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

UNEP

FORM FOR NOTIFICATION OF FINAL REGULATORY ACTION TO BAN OR SEVERELY RESTRICT A CHEMICAL

COUNTRY: EUROPEAN COMMUNITY

(Member States: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and United Kingdom)

PART I: PROPERTIES, IDENTIFICATION AND USES

1.	IDENTITY OF CHEMICAL	
1.1	**Common name**	Aldicarb (ISO)
1.2	**Chemical name according to an internationally recognized nomenclature (e.g. IUPAC), where such nomenclature exists**	IUPAC: 2-methyl-2-(methylthio)propionaldehyde -O-methylcarbamoyl- oxime CA: 2-methyl-2-(methylthio)propanal -O-[(methylamino)carbonyl]- oxime
1.3	**Trade names and names of preparations**	Selected trade names: Temik; Sanacarb, Sentry; Tranid Mixtures: Cardinal (+ fipronil); Regent Plus (+ fipronil) ; Trident (+ fipronil)
1.4	**Code numbers**	
1.4.1	**CAS number**	116-06-3
1.4.2	**Harmonized System customs code**	2930 90 70
1.4.3	**Other numbers (specify the numbering system)**	CIPAC: 215 EINECS: 204-123-2 RTECS: UE2275000.

PLEASE RETURN THE COMPLETED FORM TO:

Interim Secretariat for the Rotterdam Convention
Plant Protection Service
Plant Production and Protection Division, FAO
Viale delle Terme di Caracalla
00100 Rome, Italy

Tel: (+39 06) 5705 3441
Fax: (+39 06) 5705 6347
E-mail: pic@fao.org

OR

Interim Secretariat for the Rotterdam Convention
UNEP Chemicals

11-13, Chemin des Anémones
CH – 1219 Châtelaine, Geneva, Switzerland

Tel: (+41 22) 917 8183
Fax: (+41 22) 797 3460
E-mail: pic@unep.ch

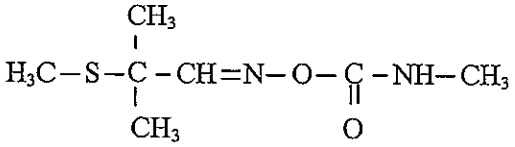
1.5	**Indication regarding previous notification on this chemical, if any**
1.5.1	☑ This is a first time notification of final regulatory action on this chemical.
1.5.2	θ This is a modification of a previous notification of final regulatory action on this chemical. The sections modified are: _____ θ This notification replaces all previously submitted notifications on this chemical.
	Date of issue of the previous notification: _____

1.6 **Information on hazard classification where the chemical is subject to classification requirements**	
International classification systems	**Hazard class**
WHO (IPCS 2000-2002)	Ia
IARC (1991, vol 53)	Group 3
UN Classification	UN Hazard Class: 6.1 UN Pack Group: I
Classification in the EC in accordance with Council Directive 67/548/EEC	T+ (Very toxic), R26/28 (Very toxic by inhalation and if swallowed) T (Toxic), R24 (Toxic in contact with skin). N (Dangerous for the environment), R50/53 (Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment).
Other classification systems	**Hazard class**

1.7	**Use or uses of the chemical**
1.7.1	☑ **Pesticide**
	Describe the uses of the chemical as a pesticide in your country: Aldicarb is an oxime carbamate insecticide, nematicide and acaricide. Aldicarb and its main biologically active metabolites (aldicarb sulfoxide and aldicarb sulfone) are systemic pesticides. In the European Community, all intended uses were related to the soil application of granular formulations. Harmful organisms to be controlled covered a large range of insects, nematodes and aphids over a wide range of crops, including fruits (citrus, grape, strawberries, bananas), tomatoes, carrots, parsnips, brassica roots, leafy and headed brassica onions (bulb and seeds), potatoes, cereals, carnations, chrysanthemums, cotton, fodder beet, fodder peas, gladiolus, maize, ornamentals and perennial plants, roses, nurseries …
1.7.2	θ **Industrial**
	Describe the industrial uses of the chemical in your country: No known use.

1.8 Properties

1.8.1 Description of physico-chemical properties of the chemical

Minimum purity	920 g/kg (FAO specification 1988)
Molecular Formula	$C_7H_{14}N_2O_2S$
Molecular Mass	190.3
Structural Formula	
Melting point	102-103°C
Boiling point	
Appearance	white crystalline solid
Relative density	1.195 (specific gravity at 25°C)
Vapour pressure	3.4×10^{-3} Pa at 25°C
Henry's law constant	1.23×10^{-4} kPa m^3 $g\ mol^{-1}$ at 25°C (calculated)
Solubility in water	pH 5 : 5.29 g/l at 20°C pH 7 : 4.93 g/l at 20°C pH 9 : 4.95 g/l at 20°C (significant decomposition)
Solubility in organic solvents (at 25°C)	hexane: 1 g/l acetone: 373 g/l dichloromethane: 578 g/l
Partition coefficient (log P_{ow})	1.15 at 25°C
Hydrolytic stability (DT_{50})	pH 4: -- ; pH 7: -- pH 8.5: 170 d
Photo stability (DT_{50})	4.1 d (pH 5 at 25°C) in water

Full Report on Aldicarb (ECCO, January 1997 (copy extracts attached).
Monograph on the Review of Aldicarb, European Community (copy extracts attached).

1.8.2 Description of toxicological properties of the chemical

Absorption, distribution, excretion and metabolism in mammals

When aldicarb is given orally to rats, it is absorbed readily (93% within 2 days), distributed widely in the body, and excreted rapidly (95% excreted within 4 days).
The potential for accumulation is negligible.
The main animal metabolites identified are: aldicarb sulfoxide, aldicarb sulfone.

Acute toxicity

LD_{50} (oral, rat)	0.5 mg/kg, (T+), R 28
LD_{50} (dermal, rat)	218 mg/kg, (T), R 24
LC_{50} (inhalation, rat)	0.0039 mg/l, (T+), R 26
Skin and eye irritation	no data on a.s., 36% aldicarb in dichloromethane not classifiable

Signs of toxicity are those commonly associated with acetylcholinesterase inhibition by a carbamate insecticide.

Short term toxicity

Signs of toxicity of repeated administration are those commonly associated with acetylcholinesterase inhibition by a carbamate insecticide. The most sensitive indicator of exposure is cholinesterase depression.

Target / critical effect	brain, erythrocyte / cholinesterase inhibition
Lowest relevant NOAEL	0.065 mg/kg bw/d, 1 year dog

Genotoxicity

No genotoxic potential of relevance to man

Long term toxicity and carcinogenicity

The most sensitive indicator of exposure is cholinesterase depression.

Target / critical effect	brain, erythrocyte / cholinesterase inhibition
Lowest relevant NOAEL	0.5 mg/kg, 2 year rat
Carcinogenicity	negative

Reproductive toxicity

Reproduction	negative
Developmental toxicity	negative

Delayed neurotoxicity

negative

Other toxicological studies
No concerns identified by immunological and neurobehavioural studies
Medical data (Annex 11 5.9)
NOAEL for depression of erythrocyte cholinesterase 0.025 mg/kg

Admissible Daily Intake (ADI)	0.0025 mg/kg	human volunteers	Safety factor 10
Acceptable Operator Exposure (AOEL)	0.0025 mg/kg	human volunteers	Safety factor 10
Acute Reference dose (ARfD)	0.0025 mg/kg	human volunteers	Safety factor 10

Full Report on Aldicarb (ECCO, January 1997 (copy extracts attached).
Monograph on the Review of Aldicarb, European Community (copy extracts attached).

1.8.3 Description of ecotoxicological properties of the chemical

Fate and behaviour

Soil: Aldicarb is not persistent in soil. Aldicarb degraded with half-lives of 2-12 days in laboratory studies. Aldicarb is oxidised to aldicarb sulfoxide and then to aldicarb sulfone. In field studies the dissipation of total carbamate residues (aldicarb, aldicarb sulfoxide and aldicarb sulfone) occurred with DT_{50}field 0.5 to 2 months and DT_{90}field 2.5 to 4.7 months.

Water:

- Ground water: Laboratory sorption studies for aldicarb (Koc 21 to 68), aldicarb sulfoxide (Koc 13 to 48) and aldicarb sulfone (Koc 11 to 32) suggest that all three could leach to groundwater under vulnerable conditions.
- Surface water: chemical hydrolysis of aldicarb is unlikely to be significant under environmental conditions since the shortest half life of 170 days did not occur until pH 8.5 (15°C). At 25°C, aldicarb photolysed with a half-life of 4.1 days.
- Water sediment system: DT_{50} (aldicarb, total system) = 5.5 days. Main pathway is loss of the carbamate moiety, aldicarb sulfoxide and aldicarb sulfone were minor metabolites < 3%. Aldicarb sulfone is rapidly degraded in the water sediment systems with a DT_{50} of 4.0 days. Aldicarb sulfoxide is rapidly degraded in water sediment systems with a DT_{50} of 5 days.

Air: Due to the low vapour pressure of aldicarb and due to soil incorporation, not a likely route of environmental contamination.

Ecotoxicology:

- Terrestrial vertebrates

- Birds:	Acute toxicity	Mallard duck	LD_{50} = 1.0 mg/kg bw
	Short term dietary	Mallard duck	LC_{50} = 71 mg/kg (ppm)
- Mammals	Acute toxicity	Rabbit	LD_{50} = 1.3 mg a.s./kg bw
	Acute toxicity	Mouse	LD_{50} = 0.382 mg a.s./kg bw
	Dietary toxicity	Rat	NOEL = 1.6 mg a.s./kg bw/day
	Dietary toxicity	Mouse	NOEL = 0.6 mg a.s./kg bw/day

- Aquatic species

Fish	(96 hours)	Bluegill sunfish	LC_{50} = 0.063 mg a.s./l
Invertebrate	(48 hours)	Daphnia	EC_{50} = 0.41 mg a.s./l
Algae	(96 hours)	*Scenedesmus subspicatus*	EC_{50} = 1.4 mg a.s./l (growth)

- Bees: LD_{50} (contact) = 0.029 µg/bee. Extremely dangerous to bees.
- Other arthropods:
  - *Poecilus cupreus:* application rate 5 kg a.s/ha: 100 % mortality (laboratory test)
  - *Pterostichus melanarius*: application rate 5 kg a.s/ha: no effect on survival (semi-field)
- Earthworm: *Eisenia foetida*: LC_{50} (48 hr) = 8 mg a.s./kg bw (moderately toxic)

Full Report on Aldicarb (ECCO, January 1997 (copy extracts attached).
Monograph on the Review of Aldicarb, European Community (copy extracts attached).

PART II: FINAL REGULATORY ACTION

2.	FINAL REGULATORY ACTION
2.1	**The chemical is:** θ **banned** **OR** ☑ **severely restricted**
2.2	**Information specific to the final regulatory action**
2.2.1	**Summary of the final regulatory action**
	It is prohibited to place on the market or use plant protection products containing aldicarb. Aldicarb is not included in the list of authorised active ingredients in Annex I to Directive 91/414/EEC. The authorisations for plant protection products containing aldicarb had to be withdrawn by 18 September 2003. From the date of adoption of Council Decision 2003/199/EC (18 March 2003), no authorisations for plant protection products containing aldicarb could be granted or renewed. Certain essential uses listed in the Annex to Council Decision 2003/199/EC may remain authorised until 30 June 2007 under specific conditions (see point 2.5.2).
2.2.2	**Reference to the regulatory document**
	Council Decision 2003/199/EC of 18/03/2003 concerning the non-inclusion of aldicarb in Annex I to Council Directive 91/414/EEC and the withdrawal of authorisations for plant protection products containing this active substance (Official Journal of the European Union L76 of 22/03/2003, pp. 21-24) (copy attached).
2.2.3	**Date of entry into force of the final regulatory action**
	18/09/2003 (Authorisations for plant protection products containing aldicarb had to be withdrawn by then with the exception of certain essential uses as described in point 2.5.2 subchapter "Formulation(s) and use or uses that remain allowed").

2.3	**Was the final regulatory action based on a risk or hazard evaluation?**	☑ **Yes**	θ **No**
	If yes, give information on such evaluation		
	Directive 91/414/EEC provides for the Commission to carry out a programme of work for the examination of existing active substances used in plant protection products which were already on the market on 25 July 1993, with a view to their possible inclusion in Annex I to the Directive. Within this context, a company notified its wish to secure the inclusion of aldicarb as an authorised active ingredient. A Member State was designated to undertake a hazard and risk assessment based on the dossier submitted by the notifier. The assessment report was subject to peer review during which the Commission undertook extensive consultations with experts of the Member States as well as with the notifier. The results were then reviewed by the Member States and the Commission within the Standing Committee on the Food Chain and Animal Health (SCFCAH). The dossier and the information from the review were also submitted to the Scientific Committee for Plants. The evaluation was based on a review of scientific data generated for aldicarb and two representative formulations (Temik 10G and Temik 5G) in the context of the conditions prevailing in the European Community (intended uses, recommended application rates, good agricultural practices). Only data that have been generated according to scientifically recognized methods were validated and used for the evaluation. Moreover data reviews were performed and documented according to generally recognized scientific principles and procedures. It was concluded that aldicarb was not demonstrated to fulfil the safety requirements laid down in Article 5 (1) (a) and (b) of Directive 91/414/EEC, in particular with regard to its possible impact on non-target organisms. Of particular concern were the risks to small birds and to earthworms.		
	Reference to the relevant documentation		

Review report 6838/VI/97-rev.12, 03 June 2002 (copy attached) and supporting background documents (dossier, monograph and the peer review report under the Peer Review Programme (ECCO, January 1997).
Opinion of the Scientific Committee on Plants regarding the inclusion of aldicarb in Annex 1 to Directive 91/414/EEC concerning the placing of plant protection products on the market (Scp/Aldic/041-Final), 18 January 1999.

2.4	**Reasons for the final regulatory action**	
2.4.1	**Is the reason for the final regulatory action relevant to the human health?**	θ **Yes** ☑ **No**

If yes, give summary of the known hazards and risks presented by the chemical to human health, including the health of consumers and workers

The final regulatory action was taken to protect the environment. However aldicarb is very toxic by inhalation and if swallowed, and toxic in contact with skin, and an evaluation of the risk to human health was also undertaken.

This evaluation focused on the risk presented by aldicarb to operator and consumer health only for formulations and uses which were intended in the European Community, *i.e.* soil application/incorporation of granular formulation at application rates ranging from 0.25 to 20 kg aldicarb/ha.
For these conditions of use, the following conclusions were reached:
Consumers:
After consideration of a number of toxicological findings and in conjunction with the fact that the potential dietary exposure to aldicarb residues for adults, young children and infants as derived by the probabilistic approach at selected high percentiles of the exposure distribution are below the ARfD, it was concluded that based on the available information there is no appreciable health risk for adults, young children and infants.
Operator exposure:
The first risk assessment performed concluded that the overall application by *downward placement* and *band application* might be acceptable but further exposure data were required. Usage of *hand held equipment* and overall application by *broadcast* was considered unacceptable.

While the available toxicological information supported the setting of a AOEL value of 0.0025 mg/kg bw (based on a NOEL from human volunteer study with an assessment factor of 10), exposure predictions for the various scenarios of use were uncertain, pending the submission of specific field studies conducted under relevant conditions.

During the course of the evaluation process, a new study was provided which enabled it to be concluded that for tractor-mounted equipment the measured exposure is well below the AOEL with either a 10 % or 100 % dermal absorption factor.

Due to the particular modes of application of this plant protection product, specific information was needed on exposure for the various techniques of application used Additional information was submitted to the Rapporteur Member State on hand held application in Citrus with a study conducted in the field using hand held injectors. The study data combined with a dermal penetration factor of 10% as recommended by the RMS showed an acceptable margin of safety for operators protected in accordance with label recommendations.

The use of hand held applications in greenhouse was not fully assessed.
A further study examined the use of tractor-mounted granule applicators with surface application and subsequent incorporation. Although not regarded as fully meeting the required standard for a registration study, these data indicated an estimated systemic exposure of 0.007 mg/kg/bw, corresponding to 40% of the AOEL. Therefore it was concluded that further data would be required to support this method of application.

Reference to the relevant documentation

	Review report 6838/VI/97-rev.12, 03 June 2002 (copy attached) and supporting background documents (dossier, monograph and the peer review report under the Peer Review Programme (ECCO, January 1997) Opinion of the Scientific Committee on Plants regarding the inclusion of aldicarb in Annex 1 to Directive 91/414/EEC concerning the placing of plant protection products on the market (Scp/Aldic/041-Final), 18 January 1999.
	Expected effect of the final regulatory action
	Reduction of human exposure risk from plant protection uses.

2.4.2	**Is the reason for the final regulatory action relevant to the environment?**	☑ **Yes** θ **No**

If yes, give summary of the known hazards and risks to the environment

Final regulatory action was taken to protect on non-target organisms, in particular birds and earthworms. Concerns were identified with regard to:

- **Terrestrial vertebrates**: The toxicity/estimated exposure ratios were very low on the basis of laboratory studies. Uses lead to an unacceptable risk to small birds. The risk to birds was investigated by means of a probabilistic risk assessment. The effects on national populations would not be expected, although some local impact might occur. Broadcast administration was not acceptable regarding birds and mammals. Incorporation in soil was considered as part of the evaluation, but the actual quantities of granules remaining on the soil, and thus available for small birds, depended strongly on the quality of the application conditions. Thus the risk to small birds through exposure to the granules cannot be totally minimised to an acceptable level.
- **Aquatic species**: The toxicity/estimated exposure ratios were very low. Aldicarb is very toxic to aquatic organisms. A broadcast application was unacceptable. Application rates above 2.5 kg aldicarb/ha were unacceptable.
- **Bees and other arthropods species**: there was no risk to bees for an application rate up to 3.7 kg as/ha, but higher application rates were not addressed. A high risk for other non-target arthropod species was identified.
- **Earthworms:** acute risk was acceptable at 1 kg a.s./ha. For higher application rates, more field data concerning the acute risk of aldicarb on earthworms were requested: A study under agricultural field conditions revealed no significant effects up to 3.36 kg a.s./ha. However, at the time of the regulatory action, the available information from field studies about the effects of aldicarb or its metabolites on earthworms was considered as still insufficient to conclude that the risks were acceptable. The risk to birds and small mammals via ingestion of earthworms as a food source was considered as acceptable.

Reference to the relevant documentation

Review report 6838/VI/97-rev.12, 03 June 2002 (copy attached) and supporting background documents (dossier, monograph and the peer review report under the Peer Review Programme (ECCO, January 1997)

Opinion of the Scientific Committee on Plants regarding the inclusion of aldicarb in Annex 1 to Directive 91/414/EEC concerning the placing of plant protection products on the market (Scp/Aldic/041-Final), 18 January 1999.

Expected effect of the final regulatory action

Reduction of risk from plant protection uses.

2.5	**Category or categories where the final regulatory action has been taken**	
2.5.1	**Final regulatory action has been taken for the chemical category**	θ **Industrial**

Use or uses prohibited by the final regulatory action

Not relevant

Use or uses that remain allowed

No known industrial uses. Not relevant

2.5.2	**Final regulatory action has been taken for the chemical category**	☑ **Pesticide**

Formulation(s) and use or uses prohibited by the final regulatory action

All applications as plant protection products, except the essential uses listed below.

Formulation(s) and use or uses that remain allowed

Authorisations for essential uses may be maintained until 30 June 2007 by the EC Member States indicated, provided that they:
(a) ensure that such plant protection products remaining on the market are relabelled in order to match the restricted use conditions;
(b) impose all appropriate risk mitigation measures to reduce any possible risks in order to ensure the protection of human and animal health and the environment;
(c) ensure that alternative products or methods for such uses are being seriously sought, in particular, by means of action plans.

For all non-essential uses, for which existing authorisations had to be withdrawn by 18 September 2003, the EC Member States may grant a period of grace for disposal, storage, placing on the market and use of existing stocks that must expire no later than 18 September 2004. For essential uses that can be continue to be authorised until 30 June 2007, the grace period for disposal etc of existing stocks is 6 months (*i.e.* up until 31 December 2007).

List of essential uses that may continue to be authorised

Member State	Use
Belgium	Beet
Greece	Potatoes
	Tobacco
Spain	Cotton
	Citrus (young plantation)
	Woody nurseries
France	Sugar beet
	Vineyards
Italy	Sugar beet
	Tobacco
	Nurseries
Netherlands	Ornamentals
	Sugar beet
	Potatoes (seed and starch)
Portugal	Citrus
	Floriculture
	Vineyards
United Kingdom	Potatoes
	Carrots (including parsnips)
	Onions
	Ornamentals

2.5.3 Estimated quantity of the chemical produced, imported, exported and used, where available.

	Quantity per year (MT)	Year
Produced	Not available	
Imported	Not available	
Exported	Not available	
Used	Not available	

2.6 Indication, to the extent possible, of the likely relevance of the final regulatory action to other states and regions

Similar problems likely in other countries where substance is used, particularly in developing countries.

2.7	Other relevant information that may cover:
2.7.1	Assessment of socio-economic effects of the final regulatory action

2.7.2	Information on alternatives and their relative risks
2.7.3	Relevant additional information

PART III : GOVERNMENT AUTHORITIES

Ministry/Department and authority responsible for issuing/enforcing the final regulatory action	
Institution	European Commission
Address	Rue de la Loi, 200 B-1049 Brussels Belgium
Telephone	+322 299 48 60
Telefax	+322 296 69 95
E-mail address	klaus.berend@cec.eu.int
Designated National Authority	
Institution	DG Environment European Commission
Address	Rue de la Loi, 200 B-1049 Brussels Belgium
Name of person in charge	Klaus BEREND
Position of person in charge	Administrator
Telephone	+322 299 48 60
Telefax	+322 299 85 58
E-mail address	klaus.berend@cec.eu.int

Date, signature of DNA and official seal: 18.12.03

Commission Européenne D.G. ENV

ROTTERDAM CONVENTION

SECRETARIAT FOR THE ROTTERDAM CONVENTION
ON THE PRIOR INFORMED CONSENT PROCEDURE
FOR CERTAIN HAZARDOUS CHEMICALS AND PESTICIDES
IN INTERNATIONAL TRADE

FORM FOR NOTIFICATION
OF FINAL REGULATORY ACTION TO BAN OR SEVERELY RESTRICT A CHEMICAL

Country: JAMAICA

SECTION 1 IDENTITY OF CHEMICAL SUBJECT TO THE FINAL REGULATORY ACTION

1.1	**Common name**	**Aldicarb**
1.2	**Chemical name according to an internationally recognized nomenclature (e.g. IUPAC), where such nomenclature exists**	2-methyl-2-(methylthio)propionaldehyde *O*-methylcarbamoyloxime
1.3	**Trade names and names of preparations**	**Temik 10G and 15G** formulations Aldicarb (English); Aldicarbe (French); common trade Carbanolate; Temic; Temik G; Temik M; Temik LD; Sentry; Temik 5G; Temik 10G; Temik 15G;Temik 150G;

1.4 Code numbers

1.4.1	CAS number	116-06-3
1.4.2	Harmonized System customs code	
1.4.3	Other numbers (specify the numbering system)	

1.5 Indication regarding previous notification on this chemical, if any

1.5.1 x☐ This is a first time notification of final regulatory action on this chemical.

1.5.2 This notification replaces all previously submitted notifications on this chemical.
Date of issue of the previous notification:

_____

SECTION 2 FINAL REGULATORY ACTION

2.1 The chemical is: ☒ **banned** **OR** ☐ **severely restricted**

2.2 Information specific to the final regulatory action

2.2.1 Summary of the final regulatory action

Re-registration refused and no further registrations will be considered. Aldicarb was on the Second Schedule (prohibited list) of the Pesticides Act 1975 however a registration was found on the register of pesticides

2.2.2 Reference to the regulatory document, e.g. where decision is recorded or published

Pesticides Act 1975 Second Schedule

2.2.3 Date of entry into force of the final regulatory action

December 1994

2.3 Category or categories where the final regulatory action has been taken

2.3.1 All use or uses of the chemical in your country prior to the final regulatory action

Temik 10G and 15G were known to be used as an insecticide to control sucking aphids, mites, leaf miner and nematodes particularly in citrus and ornamentals. It was available to all farmers and could be applied to vegetables. It was applied to the soil by hand

2.3.2 Final regulatory action has been taken for the category ☐ Industrial

Use or uses prohibited by the final regulatory action

Use or uses that remain allowed (only in case of a severe restriction)

2.3.3 Final regulatory action has been taken for the category ☒ Pesticide

Formulation(s) and use or uses prohibited by the final regulatory action

All forms of Aldicarb including Temik 10G and 15G which were registered at the time of the decision

Formulation(s) and use or uses that remain allowed

(only in case of a severe restriction)

No formulation and use remained

2.4 **Was the final regulatory action based on a risk or hazard evaluation?** ☒ **Yes**

☐ **No** (If no, you may also complete section 2.5.3.3)

2.4.1 If yes, reference to the relevant documentation, which describes the hazard or risk evaluation

Report to the Board of the Pesticides Control Authority on Aldicarb (see attached), EHC 121, 1991.

Summary description of the risk or hazard evaluation upon which the ban or severe restriction was based.

2.4.2.1 Is the reason for the final regulatory action relevant to human health? ☒ Yes

☐ No

If yes, give summary of the hazard or risk evaluation related to human health, including the health of consumers and workers

Aldicarb is a highly toxic WHO Class 1a pesticide used primarily on citrus and ornamentals on small and medium size farms in Jamaica. There was no programme to manage the distribution of aldicarb which meant that small farmers would have access to use the product on a wide range of crops such as tomato. Pesticide applicators mainly small farmers in Jamaica do not have access to protective gears. They do not wear protective clothing sometimes because of the hot tropical climatic conditions which makes them uncomfortable. Use of the product represents an unacceptable risk to the health of small farmers. There was also the risk of aldicarb contaminating food because of its systemic action and contaminating the water table based on known incidences in the United States. Jamaica has several areas of limestone and underground rivers

Expected effect of the final regulatory action

- No exposure of farmers and consumers as a result of the use of aldicarb

2.4.2.2 Is the reason for the final regulatory action relevant to the environment? x☐ Yes

No

If yes, give summary of the hazard or risk evaluation related to the environment

Jamaica has high water table and underground rivers that could be contaminated by the use of aldicarb. Despite very restricted conditions of use in the US, aldicarb was found in ground water in Florida, New York and other states where the chemical is used. (Referenced in report to PCA Board see 2.4.1)

Expected effect of the final regulatory action

No exposure through water contamination

2.5 Other relevant information regarding the final regulatory action

2.5.1 Estimated quantity of the chemical produced, imported, exported and used

	Quantity per year (MT)	Year
produced	Na	na
imported	information not available	
exported	Na	na
used		

2.5.2 Indication, to the extent possible, of the likely relevance of the final regulatory action to other states and regions

The decision was discussed at the regional level at the Coordinating Group of Pesticides Control Board and was found to be relevant to other countries in the region. Belize had ban aldicarb

2.5.3 Other relevant information that may cover:

2.5.3.1 Assessment of socio-economic effects of the final regulatory action

Ornamental industry less competitive internationally in terms of cost and possibly productivity

2.5.3.2 Information on alternatives and their relative risks, e.g. IPM, chemical and non-chemical alternatives

Furdan (carbofuran) for nematodes

Agrimek for spider mites

2.5.3.3 Basis for the final regulatory action if other than hazard or risk evaluation

Na

2.5.3.4 Additional information related to the chemical or the final regulatory action, if any

SECTION 3 PROPERTIES

3.1 Information on hazard classification where the chemical is subject to classification requirements

International classification systems e.g. WHO, IARC, etc.	**Hazard class**
WHO	1a - extremely hazardous

Other classification systems e.g. EU, USEPA	**Hazard class**
EPA Formulation 1	

3.2 Further information on the properties of the chemical

3.2.1 Description of physico-chemical properties of the chemical

Mol.wt 190.3 Crystal-line solid, moderately soluble in water, and susceptible to oxidation and hydrolytic reactions.

Reference

Pesticides Manual British comp, EHC 121, 1991

3.2.2 Description of toxicological properties of the chemical

Oral toxicity Acute oral LD50 for rats 0.93 mg/kg. Skin and eye Acute percutaneous LD50 for male rabbits 20mg/kg

Reference

Pesticides Manual, EHC 121, 1991

3.2.3 Description of ecotoxicological properties of the chemical

Species	Oral LD_{50} mg/kg	Dermal LD_{50} mg/kg	Inhalation LD_{50} mg/kg
Rat Rabbit Bird (duck)	0.9 – 1 1.3 4.4	5-20 (24h) 20 ----	0.03 (0.5h)
Species		LC_{50} mg/l	
Fish (Rainbow trout) Bluegill		8.8 mg/l (96h) 1.5 mg/l (98h)	

Half life 30-40 days by microbial degradation
Aldicarb sulfone – toxicity Class I

Reference

Report to PCA Board and associated references see 2.4.1

SECTION 4 DESIGNATED NATIONAL AUTHORITY

Institution	Pesticides Control Authority
Address	Ministry of Health and the Environment
Name of person in charge	Hyacinth Chin Sue
Position of person in charge	Registrar
Telephone	876 967 1281
Telefax	876 967 1285
E-mail address	chinsue@caribpesticides.net

Date, signature of DNA and official seal: Nov 9th 2007