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of the United Nations**

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**Rotterdam Convention on the Prior Informed
Consent Procedure for Certain Hazardous
Chemicals and Pesticides in International Trade
Chemical Review Committee**

Fifth meeting

Rome, 23–27 March 2009

Item 4 (b) (i) of the provisional agenda *

**Listing of chemicals in Annex III to the Rotterdam Convention:
review of notifications of final regulatory actions to ban or severely
restrict a chemical: azinphos-methyl**

Azinphos-methyl

Note by the Secretariat

1. Under Article 5 of the Rotterdam Convention, when the Secretariat has received at least one notification from each of two prior informed consent (PIC) regions containing the information required in Annex I to the Convention, it shall forward the notifications and accompanying documentation to the members of the Chemical Review Committee. The Committee shall review the documentation provided in such notifications and, in accordance with the criteria set out in Annex II to the Convention, recommend to the Conference of the Parties whether the chemical in question should be included in Annex III to the Convention and whether a decision guidance document should be drafted.
2. The Secretariat has received two notifications relating to the use of azinphos-methyl as a pesticide that meet the information requirements of Annex I from two PIC regions (North America (Canada) and Asia (Thailand)). Summaries of those notifications were included in PIC Circular XXVIII of December 2008 and PIC Circular XVI of December 2002, respectively. The notifications, as received from the notifying countries, are set out in the annex to the present note.
3. The supporting documentation provided by Canada and Thailand is set out in documents UNEP/FAO/RC/CRC.5/4/Add.1 and Add.2, respectively.

* UNEP/FAO/RC/CRC.5/1.

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

Annex

Notification of final regulatory action on azinphos-methyl by Canada

Notification of final regulatory action on azinphos-methyl by Thailand



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

IMPORTANT: See instructions before filling in the form

COUNTRY: CANADA

PART I: PROPERTIES, IDENTIFICATION AND USES

1. IDENTITY OF CHEMICAL	
1.1	Common name Azinphos-methyl
1.2	Chemical name according to an internationally recognized nomenclature (e.g. IUPAC), where such nomenclature exists IUPAC: S-(3,4-DIHYDRO-4-OXOBENZO[D]-[1,2,3]-TRIAZIN-3-YLMETHYL)O,O-DIMETHYL PHOSPHORODITHIOATE CAS: O,O-DIMETHYL S-[(4-OXO-1,2,3-BENZOTRIAZIN-3(4H)-YL)METHYL] PHOPHORODITHIOATE
1.3	Trade names and names of preparations Guthion Solupak 50% Wettable Powder Crop Insecticide, Sniper 50W Clean Pak Insecticide, Azinphos-methyl 240 EC Spray Concentrate, and Azinphos-methyl 50W Wettable Powder Insecticide.
1.4	Code numbers
1.4.1	CAS number 86-50-0
1.4.2	Harmonized System customs code
1.4.3	Other numbers (specify the numbering system) EEC No. 201-676-1, STCC Number 4921527, Caswell Number 374, RTECS Number TE1925000
1.5 Indication regarding previous notification on this chemical, if any	
1.5.1	<input checked="" type="checkbox"/> This is a first time notification of final regulatory action on this chemical.
1.5.2	<input type="checkbox"/> This is a modification of a previous notification of final regulatory action on this chemical. The sections modified are: _____ <input type="checkbox"/> This notification replaces all previously submitted notifications on this chemical.

PLEASE RETURN THE COMPLETED FORM TO:

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

OR

Secretariat for the Rotterdam Convention
UNEP Chemicals
11-13, Chemin des Anémones
CH - 1219 Châtelaine, Geneva, Switzerland

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

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

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
UN/NA Number 2783	
WHO toxicity class (active ingredient)	1b
EPA (formulation)	1
EC risk	T+ (R24, R28)
Other classification systems	Hazard class
Development codes Bayer 17 147	
R 1582; E1582	
Official Codes ENT 23 233	
OMS 186	
Source: The Pesticide Manual, Eleventh Edition, 1997.	

1.7 Use or uses of the chemical	
1.7.1	<input checked="" type="checkbox"/> Pesticide Describe the uses of the chemical as a pesticide in your country: <p>Azinphos-methyl is a broad spectrum organophosphate insecticide, which at the time of the regulatory action, was registered in Canada for use on a wide variety of feed, food and ornamental crops. The feed crops were alfalfa, clover and rye. Registered uses on food crops were apple, crab apple, pear, quince, cherry, peach, apricot, plum, prune, blackberry, boysenberry, loganberry, raspberry, blueberry, cranberry, grape, strawberry, walnut, broccoli, Brussels sprouts, cabbage (including tight heading varieties of Chinese cabbage), cauliflower, cucumber, potato, tomato, melons, pumpkin and turnip/rutabaga. Registered uses on ornamental crops included nursery plants, forest trees and shade trees.</p> <p>Source: - Proposed Acceptability for Continuing Registration (PACR 2003-07), Pest Management Regulatory Agency (PMRA) Re-evaluation of Azinphos-methyl, March 31, 2003.</p>
1.7.2	<input type="checkbox"/> Industrial Describe the industrial uses of the chemical in your country:

1.8	Properties																
1.8.1	Description of physico-chemical properties of the chemical																
	<table><tr><td>Molecular Weight:</td><td>317.3</td></tr><tr><td>Molecular Formula</td><td>$C_{10}H_{12}N_3O_3PS_2$</td></tr><tr><td>Melting Point:</td><td>73°C</td></tr><tr><td>Specific Gravity/Density:</td><td>1.518 at 21°C</td></tr><tr><td>Water Solubility:</td><td>28 mg/L (20°C)</td></tr><tr><td>Solubility in Other Liquids:</td><td>in dichloroethan, acetone, acetonitrile, ethyl acetate, dimethyl sulfoxide >250, n-heptane 1.2, xylene 170 (all in g/L, 20°C)</td></tr><tr><td>Vapour Pressure</td><td>5×10^{-4} mPa (20°C)</td></tr><tr><td>Kow log P</td><td>2.96</td></tr></table>	Molecular Weight:	317.3	Molecular Formula	$C_{10}H_{12}N_3O_3PS_2$	Melting Point:	73°C	Specific Gravity/Density:	1.518 at 21°C	Water Solubility:	28 mg/L (20°C)	Solubility in Other Liquids:	in dichloroethan, acetone, acetonitrile, ethyl acetate, dimethyl sulfoxide >250, n-heptane 1.2, xylene 170 (all in g/L, 20°C)	Vapour Pressure	5×10^{-4} mPa (20°C)	Kow log P	2.96
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Kow log P	2.96																
	Source: - The Pesticide Manual, Eleventh Edition, 1997.																

1.8.2 Description of toxicological properties of the chemical

In laboratory animals, azinphos-methyl was found to be extremely toxic following acute oral and dermal exposures. Azinphos-methyl was moderately toxic via the inhalation route and was a dermal sensitizer. With oral exposure, azinphos-methyl was readily absorbed and rapidly eliminated with little tissue retention. The metabolism in rats proceeds largely through the action of glutathione-S-transferase and mixed function oxidases. Phosphorylated metabolites were not present to any significant degree in urine or feces. There was no major sex or dose-related differences in the disposition or metabolism of azinphos-methyl.

Acute toxic signs induced by azinphos-methyl are consistent with cholinesterase inhibiting chemicals and include: tremors, convulsions, salivation and respiratory distress. Dose-related inhibition of plasma, erythrocyte and brain cholinesterase activity occurs by all routes and following exposures of various durations. With short- and long-term dosing, reduced body weight gain is also observed. Assessment of the relative sensitivity of cholinesterase activity reveals no appreciable differences between mice, rats and dogs. Studies of various durations in rat indicate that the female may be more sensitive than the male. A comparison of the results of subchronic and chronic studies demonstrates that duration of dosing has little impact on toxicity. Although frank neurobehavioral observations are associated with azinphos-methyl, there was no evidence of histopathological effects on the central nervous system in any of the available studies. Azinphos-methyl did not cause any apparent delayed neurotoxicity in hens following acute exposure.

Azinphos-methyl demonstrated no evidence of tumorigenicity in rats or mice following chronic dosing. The overall weight of evidence from a battery of in vitro and in vivo studies indicates that azinphos-methyl is not genotoxic.

The developmental toxicity studies in rats and rabbits showed no evidence of teratogenic effects and no additional sensitivity of the fetus following in utero exposure to azinphos-methyl; maternal no observed adverse effect levels (NOAELs) are lower than NOAELs in the offspring. Azinphos-methyl did not cause reproductive toxicity in rats other than reduced viability of the young at doses that were maternally toxic. Thus, the overall evidence from the developmental and reproductive toxicity studies indicates that there is no increased sensitivity of the young to azinphos-methyl relative to adult animals. There was no evidence in the available database to suggest that azinphos-methyl has an adverse effect on the endocrine system in mammals.

Two key factors are considered when assessing health risks: the dose levels where no health effects occur and the dose levels to which people may be exposed. The dose levels used to assess risks are established to protect the most sensitive human population (e.g. children and nursing mothers). Only those uses where exposure is well below levels that cause no effects in animal testing are considered acceptable for continued registration.

Acute oral LD₅₀ for rats c. 9, male guinea Pigs 80, mice 11-20, dogs >10 mg/kg.

Skin and eye acute percutaneous LD₅₀ for rats 150-200 mg/kg (24 h).

Not a skin irritant, mild eye irritant (rabbits).

Inhalation LC₅₀ (4 h) for rats 0.15 mg/L air (aerosol).

NOEL (2 y) for rats and mice 5 mg/kg diet for (1 y) for dogs 5 mg/kg diet.

Acute Reference Dose: 0.007 mg/kg bw

ADI : 0.0015 mg/kg bw/day

Source:

- Proposed Acceptability for Continuing Registration (PACR 2003-07), Pest Management Regulatory Agency (PMRA) Re-evaluation of Azinphos-methyl, March 31, 2003.

- The Pesticide Manual, Eleventh Edition, 1997.

1.8.3 Description of ecotoxicological properties of the chemical

The PMRA currently conducts a deterministic assessment of the environmental risk of pest control products. Environmental risk is characterized using the quotient method, which uses the ratio of the estimated environmental concentrations to the effects end point of concern. Quotient values less than one are considered indicative of a low hazard to non-target organisms, whereas values greater than one are considered to indicate that some degree of hazard exists for effects on non-target organisms.

Available data indicated that azinphos-methyl is expected to be slightly persistent to moderately persistent in soil ($DT_{50} = 27-66$ days) under terrestrial field conditions. On soil, the phototransformation of azinphos-methyl is slow (half-life = 180 days). Azinphos-methyl has low volatility from moist soil evident by its vapour pressure (1.8×10^{-4} Pa) and Henry's Law Constant (2.0×10^{-8} atm m³/mol). Although based on its chemical properties, it has a low potential for leaching in soil, azinphos-methyl has been detected in both water and eroded soil in surface runoff (0.18–3.5% of the amount applied). Azinphos-methyl has a potential for bioaccumulation as its octanol-water partition coefficient, log Kow was 2.96.

The fate of azinphos-methyl in aquatic systems was not fully characterized due to an absence of data on aerobic and anaerobic aquatic biotransformation. Available data, however, indicated that under acidic (pH 4) and neutral (pH 7) conditions, hydrolysis is not a major route in the transformation of azinphos-methyl (half-lives of 38 and 37 days, respectively). By contrast, under basic conditions (pH 9), hydrolysis is a route of transformation (half-life = 6.9 days). Similarly, phototransformation in water is a route of transformation for azinphos-methyl (half-life = 3.2 days).

Toxicity studies indicated that azinphos-methyl was acutely toxic to a wide range of non-target organisms including birds ($LD_{50} = 32-136$ mg ai/kg bw), mammals ($LD_{50} = 7.8-48$ mg ai/kg bw), honeybees ($LD_{50} = 0.15, 0.06-0.42$ µg ai/bee), fish ($LC_{50} = 0.36-4810$ µg ai/L), aquatic invertebrates ($EC_{50} = 0.16-4800$ µg ai/L) and amphibians ($LC_{50} = 109-3200$ µg ai/L).

Azinphos-methyl poses a high risk to terrestrial organisms. In birds and mammals, there is a high risk through consumption of azinphos-methyl-contaminated food sources. In orchards, there is a high risk, since it was shown that the application of azinphos-methyl in apple orchards was responsible for 12–52% of the mortalities in birds and mammals. There is also the concern of secondary toxicity, as azinphos-methyl was responsible for kills in birds due to feeding on dead or dying fish that were exposed (azinphos-methyl was detected in bird tissue). In addition, there is the concern that azinphos-methyl poses a high risk to terrestrial invertebrates through spray deposit.

Azinphos-methyl poses an even greater risk to aquatic organisms. In fish and aquatic invertebrates, the risk is extremely high and in amphibians, the risk is very high. These risks were verified by incident reports in which fish kills in receiving waters were associated with azinphos-methyl. In Canada, azinphos-methyl has been implicated in fish kills in Prince Edward Island where heavy rainstorms washed soil from nearby treated fields. In orchards, there is a similar risk as azinphos-methyl was detected at concentrations within the range of LC_{50} s for fish in nearby streams during periods of application. Given these reports of fish kills, the PMRA has significant concerns with the surface runoff of azinphos-methyl from treated fields.

Source:

- Proposed Acceptability for Continuing Registration (PACR 2003-07), Pest Management Regulatory Agency (PMRA) Re-evaluation of Azinphos-methyl, March 31, 2003.

PART II: FINAL REGULATORY ACTION

2. FINAL REGULATORY ACTION	
2.1	The chemical is: <input type="checkbox"/> banned OR <input checked="" type="checkbox"/> severely restricted
2.2	Information specific to the final regulatory action
2.2.1	<p>Summary of the final regulatory action</p> <p>The use of azinphos-methyl and associated end-use products (EP) entails an unacceptable risk of harm to the agricultural worker pursuant to Section 20 of the Canadian Pest Control Product (PCP) Regulations. Environmental concerns have also been identified. As a result, the Pest Management Regulatory Agency (PMRA) has determined that all uses for azinphos-methyl are to be phased out as outlined below.</p> <ul style="list-style-type: none"> - Phase-out of all uses of azinphos-methyl as of end of December 2005, for which alternatives exist (alfalfa, clover, rye, quince, potatoes, tomatoes, rutabagas, turnips, cabbage, broccoli, brussels sprouts, cauliflowers, cucumbers, strawberries, boysenberries, longan berries, walnuts, melons, pumpkins, blueberries, outdoor ornamentals, nursery plants, forest trees and shade trees). - Continued registration for use on apples, crab apples, apricots, blackberries, cherries, cranberries, grapes, pears, peaches, plums, prunes, raspberries (uses that are part of an established IPM program and uses for which no alternatives exist) until end of December 2012.
2.2.2	<p>Reference to the regulatory document</p> <ul style="list-style-type: none"> - Proposed Acceptability for Continuing Registration (PACR 2003-07), Pest Management Regulatory Agency (PMRA) Re-evaluation of Azinphos-methyl, March 31, 2003. - Re-evaluation Decision Document (RRD 2004-05), Azinphos-methyl, 29 March 2004. - Re-Evaluation Note, REV2006-04, Update on Re-evaluation of Azinphos-methyl, 13 April 2006. - Re-Evaluation Note, REV2007-08, Update on Re-evaluation of Azinphos-methyl, 17 July 2007. - PMRA Web Site, Re-evaluation Summary Table (http://www.pmra-arla.gc.ca/).
2.2.3	<p>Date of entry into force of the final regulatory action</p> <p>No further uses were allowed after December 2005 for all uses except for apples, crab apples, apricots, blackberries, cherries, cranberries, grapes, pears, peaches, plums, prunes, raspberries.</p>

2.3	Was the final regulatory action based on a risk or hazard evaluation?	X <input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, give information on such evaluation The PMRA has concluded that the use of azinphos-methyl and its associated end-use products entails an unacceptable risk of harm to the agricultural worker pursuant to Section 20 of the Pest Control Product (PCP) Regulations.		
Reference to the relevant documentation - Proposed Acceptability for Continuing Registration (PACR 2003-07), Pest Management Regulatory Agency (PMRA) Re-evaluation of Azinphos-methyl, March 31, 2003. - Re-evaluation Decision Document (RRD 2004-05), Azinphos-methyl, 29 March 2004.		

2.4	Reasons for the final regulatory action	
2.4.1	Is the reason for the final regulatory action relevant to the human health?	X <input type="checkbox"/> Yes <input type="checkbox"/> 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 Two key factors are considered when assessing health risks: the dose levels where no health effects occur and the dose levels to which people may be exposed. The dose levels used to assess risks are established to protect the most sensitive human population (e.g. children and nursing mothers). Only those uses where exposure is well below levels that cause no effects in animal testing are considered acceptable for continued registration. Azinphos-methyl is extremely toxic following acute oral and dermal exposures. Azinphos-methyl is moderately toxic via the inhalation route and is a dermal sensitizer. Acute toxic signs induced by azinphos-methyl are consistent with cholinesterase inhibiting chemicals and include: tremors, convulsions, salivation and respiratory distress. Dose-related inhibition of plasma, erythrocyte and brain cholinesterase activity occurs by all routes and following exposures of various durations. Occupational risk estimates associated with application, mixing and loading for current label uses exceed the level of concern for most exposure scenarios, even after consideration of maximum feasible engineering controls and personal protective equipment (PPE) and clothing. The PPE, engineering controls and use pattern changes required to mitigate worker exposure during the phase-out period are described in PACR 2003-07, Appendix II.		
Reference to the relevant documentation - Proposed Acceptability for Continuing Registration (PACR 2003-07), Pest Management Regulatory Agency (PMRA) Re-evaluation of Azinphos-methyl, March 31, 2003. - Re-evaluation Decision Document (RRD 2004-05), Azinphos-methyl, 29 March 2004.		

<p>Expected effect of the final regulatory action</p> <p>Reducing the risk of occupational exposure to azinphos-methyl. In the interim, until registrations end on December 31, 2012, the registrant must implement a specific product stewardship plan and a number of mitigative measures to:</p> <ul style="list-style-type: none">• Ensure that field workers are provided with double notification (i.e., written notice on posted signs and verbal notification to those re-entering a field) that the area has been treated with azinphos-methyl and that azinphos-methyl is a cholinesterase inhibitor. This should include a brief description of the signs and symptoms of cholinesterase inhibition and ways to minimize exposure, and• Increase the margins of safety for agricultural workers. <p>Details of the mitigative measures are listed in the Use Standard in PACR 2003-07, Appendix II.</p> <p>Source: - Proposed Acceptability for Continuing Registration (PACR 2003-07), Pest Management Regulatory Agency (PMRA) Re-evaluation of Azinphos-methyl, March 31, 2003.</p>

2.4.2	Is the reason for the final regulatory action relevant to the environment? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If yes, give summary of the known hazards and risks to the environment.
	Reference to the relevant documentation

	Expected effect of the final regulatory action

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 <input type="checkbox"/> Industrial
	Use or uses prohibited by the final regulatory action
	Use or uses that remain allowed

2.5.2	Final regulatory action has been taken for the chemical category <input checked="" type="checkbox"/> Pesticide
	Formulation(s) and use or uses prohibited by the final regulatory action
	Phase-out of all uses of azinphos-methyl as end of December 2005, for which alternatives exist (alfalfa, clover, rye, quince, potatoes, tomatoes, rutabagas, turnips, cabbage, broccoli, brussels sprouts, cauliflowers, cucumbers, strawberries, boysenberries, longan berries, walnuts, melons, pumpkins, blueberries, outdoor ornamentals, nursery plants, forest trees and shade trees).
	Formulation(s) and use or uses that remain allowed
Continued registration for use on apples, crab apples, apricots, blackberries, cherries, cranberries, grapes, pears, peaches, plums, prunes, raspberries (uses that are part of an established IPM program and uses for which no alternatives exist) until end of December 2012.	

2.5.3 Estimated quantity of the chemical produced, imported, exported and used, where available.		
	Quantity per year (MT)	Year
Produced		
Imported		
Exported		
Used		

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

Conditions of occupational exposure are likely to occur in other regions.

2.7 Other relevant information that may cover:

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

- Significant challenge for PMRA is a regulatory decision that moves towards the goal of eliminating azinphos-methyl in a manner that is the least disruptive to the need to protect agricultural crops from pests. To meet its challenge, the PMRA has considered the availability of alternatives and the need for a transition period for those uses for which no or limited alternatives are available.
- Significant challenge for industry is to develop alternatives in the relatively short time frame of proposed phase-out.
- Significant challenge for the agricultural sector is to reduce use during the transition period and be open to using alternatives.

2.7.2 Information on alternatives and their relative risks

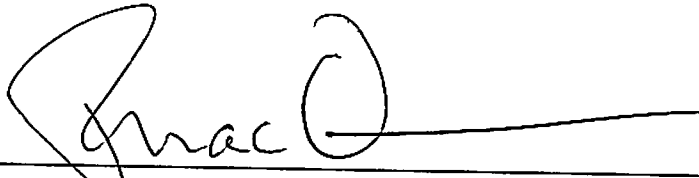
Currently no efficient alternatives for azinphos-methyl exist for the use on apples, crab apples, apricots, blackberries, cherries, cranberries, grapes, pears, peaches, plums, prunes, raspberries.

2.7.3 Relevant additional information

PART III : GOVERNMENT AUTHORITIES

Ministry/Department and authority responsible for issuing/enforcing the final regulatory action	
Institution	Pest Management Regulatory Agency, Health Canada
Address	2720 Riverside Drive Ottawa, Ontario K1A 0K9 Canada
Telephone	+ 1 613 736-3660
Telefax	+ 1 613 736-3659
E-mail address	Trish_MacQuarie@hc-sc.gc.ca
Designated National Authority	
Institution	Pest Management Regulatory Agency, Health Canada
Address	2720 Riverside Drive Ottawa, Ontario K1A 0K9 Canada
Name of person in charge	Trish MacQuarrie
Position of person in charge	Director General , Policy, Communications and Regulatory Affairs Directorate
Telephone	+ 1 613 736-3660
Telefax	+ 1 613 736-3659
E-mail address	Trish_MacQuarie@hc-sc.gc.ca

Date, signature of DNA and official seal:


Sept 3, 2008



No. AC 0912/1434

Department of Agriculture,
Chatuchak, Bangkok 10900
Thailand
Tel:66-2-5793577 Fax:5614695

13 March B.E. 2544 (2001)

Dear Sir,

We refer to Article 5 of the Rotterdam Convention regarding procedures for banned or severely restricted chemicals. At present, Thailand has adopted final regulatory actions to ban 62 pesticides, lists of which are attached herewith. Among them 32 pesticides (Set 1) had been notified under the Amended London Guidelines during voluntary implementation of PIC procedure. The pesticides in sets 2 and 3 are now notifying but not include chlordane and monocrotophos which have been listed in Annex III of the convention. We wish to submit the forms of notification to you for your information.

With kind regards.

Yours sincerely,

(Dr. Ananta Dalodom)

Director-General

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

List of banned pesticides (Type 4 Hazardous Substances)

Set 1 Pesticides banned during 1977 - 1994 according to Notification of Ministry of

Industry entitled List of Hazardous Substances B.E. 2538 (1995) dated 1 May 1995

No.	Common name	Use category	Month/Year banned	Reason
1	chlordimeform	insecticide	April 1997	Possible carcinogen
2	leptophos	insecticide	April 1997	Manufacturer voluntarily withdrew product from the market because it had tendency to have carcinogenic effect
3	BHC	insecticide	March 1980	Very long residual effect and possible carcinogen
4	sodium arsenite	insecticide	January 1981	Long residue in soil, can cause fetotoxic effect
5	endrin	insecticide	July 1981	Long residual effect, high risk to user and consumer, export seeds often rejected because residue exceed accepted limit, harmful to non-target organism, highly toxic to fish
6	DDT	insecticide	March 1983	Has tendency to have carcinogenic effect, Long residual effect
7	toxaphene	insecticide	March 1983	Has tendency to have carcinogenic effect, Long residual effect
8	2,4,5-T	Herbicide	September 1983	Has tendency to have carcinogenic effect, Long residual effect, has fetotoxic effect
9	TEPP	insecticide	June 1984	Very high acute toxicity, extremely risk to user
10	EDB	fumigant	July 1986	Possible carcinogen, has fetotoxic effect
11	sodium chlorate	Herbicide	October 1986	Strong oxidant, highly inflammable, high risk to store, explosive
12	dinoseb	Herbicide	November 1986	Possible teratogenic and carcinogenic to mammals
13	captafol	fungicide	April 1987	Possible carcinogen
14	fluoroacetamide	rodenticide	July 1987	Very high acute toxicity, extremely risk to user
15	sodium fluoroacetate	rodenticide	July 1987	Very high acute toxicity, extremely risk to user

No.	Common name	Use category	Month/Year banned	Reason
16	cyhexatin	acaricide	May 1988	High risk to the environment because it contains a heavy metal (tin).
17	parathion methyl	insecticide	May 1988	Very high acute toxicity to humans especially dermal toxicity
18	dieldrin	insecticide	May 1988	Long residual effect, accumulate in human and animals, no evidence of chronic effect, higher risk to users than other pesticides in the same group
19	aldrin	insecticide	September 1988	Long residual effect, accumulate in human and animals
20	heptachlor	insecticide	September 1988	Long residual effect, accumulate in human and animal bodies
21	daminozide	plant growth regulator	April 1989	Possible carcinogen
22	binapacryl	acaricide	February 1991	Has adverse effect to fetus and possible carcinogen
23	pentachloro-phenol	fungicide	August 1993	High acute toxicity, skin injury, fastly absobed through skin of humans and animals, persistent, long residue in the environment
24	pentachloro-phenate sodium	fungicide	August 1993	High acute toxicity, skin injury, fastly absobed through skin of humans and animals, persistent, long residue in the environment
25	mercury compounds	insecticide	August 1993	High acute toxicity, persistent, long residue in the environment, toxic to fish and aquatic animals
26	ethylene chloride	fumigant	September 1994	Possible carcinogen
27	aminocarb	insecticide	September 1994	Very low ADI, high risk for user
28	bromophos	insecticide	September 1994	Very low ADI, high risk for user
29	bromophos ethyl	insecticide	September 1994	Very low ADI, high risk for user
30	demeton	insecticide	September 1994	Very low ADI, high risk for user
31	fentin	fungicide	September 1994	Very low ADI, high risk for user
32	nitrofen	herbicide	September 1994	Very low ADI, high risk for user

Set 2 Pesticides banned on 8 May 2000 according to Notification of Ministry of Industry entitled List of Hazardous Substances(2 nd version) B.E. 2543 (2000)

No.	Common name	Use category	Month/Year banned	Reason
33	aramite	acaricide	May 2000	Possible carcinogen and no import for use at present
34	chlordane	insecticide	May 2000	Possible carcinogen, long residual effect, has adverse effect to environment and living organisms, banned or restricted use in many countries, many alternatives
35	chlordecone	insecticide	May 2000	Possible carcinogen and no import for use at present
36	chlorophenois	herbicide	May 2000	Possible carcinogen and no import for use at present
37	2,4,5-TP	herbicide	May 2000	Possible carcinogen and no import for use at present
38	phenothiol	herbicide	May 2000	Possible carcinogen and no import for use at present
39	MCPB	herbicide	May 2000	Possible carcinogen and no import for use at present
40	mecoprop	herbicide	May 2000	Possible carcinogen and no import for use at present
41	DBCP	fumigant	May 2000	Possible carcinogen and no import for use at present
42	monocrotophos	insecticide	May 2000	Very high acute toxicity and banned in many countries
43	azinphos ethyl	insecticide	May 2000	Very high acute toxicity and banned in many countries
44	mevinphos	insecticide	May 2000	Very high acute toxicity and banned in many countries
45	phosphamidon	insecticide	May 2000	Very high acute toxicity and banned in many countries

**Set 3 Pesticides banned on 26 May 2000 according to Notification of Ministry of
Industry entitled List of Hazardous Substances(3 rd version) B.E. 2543 (2000)**

No.	Common name	Use category	Month/Year banned	Reason
46	aziphos methyl	insecticide	May 2000	Very high acute toxicity and banned in many countries
47	calcium arsenate	insecticide, herbicide	May 2000	Very high acute toxicity and banned in many countries
48	chlorthiophos	insecticide, acaricide	May 2000	Very high acute toxicity and banned in many countries
49	cycloheximide	fungicide	May 2000	Very high acute toxicity and banned in many countries
50	demephion	insecticide	May 2000	Very high acute toxicity and banned in many countries
51	dimefox	insecticide, acaricide	May 2000	Very high acute toxicity and banned in many countries
52	dinoterb	herbicide	May 2000	Very high acute toxicity and banned in many countries
53	disulfoton	insecticide, acaricide	May 2000	Very high acute toxicity and banned in many countries
54	DNOC	insecticide	May 2000	Very high acute toxicity and banned in many countries
55	fensulfothion	nematicide	May 2000	Very high acute toxicity and banned in many countries
56	fonofos	insecticide	May 2000	Very high acute toxicity and banned in many countries
57	mephospholan	insecticide	May 2000	Very high acute toxicity and banned in many countries
58	paris green	insecticide	May 2000	Very high acute toxicity and banned in many countries
59	phorate	insecticide	May 2000	Very high acute toxicity and banned in many countries
60	prothoate	insecticide	May 2000	Very high acute toxicity and banned in many countries

No.	Common name	Use category	Month/Year banned	Reason
61	schradan	insecticide, acaricide	May 2000	Very high acute toxicity and banned in many countries
62	sulfotep	insecticide, acaricide	May 2000	Very high acute toxicity and banned in many countries



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

IMPORTANT: See instructions before filling in the form

COUNTRY: Thailand

PART I : PROPERTIES, IDENTIFICATION AND USES

1. IDENTITY OF CHEMICAL		
1.1	Common name	azinphos-methyl
1.2	Chemical name according to an internationally recognized nomenclature (e.g. IUPAC), where such nomenclature exists	S-(3,4-dihydro-4-oxobenzo [d]-[1, 2, 3]-triazin-3-ylmethyl O,O-dimethyl phosphorodithioate
1.3	Trade names and names of Preparations	Gusathion M, Acifon, Azinugec, Cotnion-Methy, Valefos
1.4	Code numbers	
1.4.1	CAS number	CAS RN [86-50-0]
1.4.2	Harmonized System customs code	
1.4.3	Other numbers (specify the numbering system)	EEC no. 201-676
1.5	Indication regarding previous notification on this chemical, if any	
1.5.1	<input checked="" type="checkbox"/> This is a first time notification of final regulatory action on this chemical	
1.5.2	<input type="checkbox"/> This is a modification of a previous notification of final regulatory action on this chemical. The sections modified are: _____	
	<input type="checkbox"/> This notification replaces all previously submitted notifications on this chemical.	
	Date of issue of the previous notification: _____	

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

OR

Interim Secretariat for the Rotterdam Convention
UNEP Chemicals

11 - 13, Chemin des Anémones
CH - 1219 Châtelaîne, Geneva, Switzerland

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

Tel: (+4122) 917 8183
Fax: (+4122) 797 3460
E-mail: pic@unep.ch

1.6 Information on hazard classification where the chemical is subject to classification requirements	
Other classification systems	Hazard class
WHO (Technical product)	Ib
Other classification systems	Hazard class
EPA (Formulation)	I
EC Risk	T+ (24, R 28)

1.7 Use or uses of the chemical	
1.7.1	<input checked="" type="checkbox"/> Pesticide
	Describe the uses of the chemical as a pesticide in your country:
	Insecticide. This pesticide has never been imported for use in the country.
1.7.2	<input type="checkbox"/> Industrial
	Describe the industrial uses of the chemical in your country:

1.8 Properties	
1.8.1	Description of physico-chemical properties of the chemical
	<p>Molecular weight : 317.3. Molecular formula : $C_{10}H_{12}N_3O_3PS_2$. Form: Yellowish crystals : Melting point : 73°C. Vapour pressure : 5×10^{-4} mPa (20°C); 1×10^{-3} mPa (25°C). K_{ow} : log P = 2.96 Specific gravity/density : 1.518 (21°C). Solubility in water 28 mg/l (20°C). Soluble in dichloroethane, acetone, acetonitrile, ethyl acetate, dimethyl sulfoxide, xylene. Stability : Rapidly hydrolysed in alkaline and acidic media. DT_{50} (22°C): 87 d (pH4), 50 d (pH7), 4 d (pH9). Photodegrades on soil surfaces and readily photodegrades in water. Decompose above 200°C.</p>

1.8.2	Description of toxicological properties of the chemical Acute oral LD ₅₀ for rats 9, male guinea pigs 80, mice 11–20, dogs > 10 mg/kg. Skin and eye : Acute percutaneous LD ₅₀ (24h) for rats 150–200 mg/kg ; not a skin irritant, mild eye irritant (rabbits). Inhalation : LC ₅₀ (4 h) for rats 0.15 mg/l air (aerosol). NOEL (2y) for rats and mice 5 mg/kg diet ; (1 y) for dogs 5 mg/kg diet. ADI (JMPR) 0.005 mg/kg b.w.[1991].
1.8.3	Description of ecotoxicological properties of the chemical Birds : Acute oral LD ₅₀ for bob white quail 32 mg/kg. Dietary LD ₅₀ (5d) for Japanese quail 935 mg/kg diet. Fish : LC ₅₀ (96 h) for rainbow trout 0.02, golden orfe 0.12 mg/l. Toxic to bees. Worms : LD ₅₀ (14 d) 59 mg/kg. Daphnia LD ₅₀ (48 h) 0.0011 mg/l. Algae : E _r C ₅₀ (96 h) for <i>Scenedesmus</i> 7.15 mg/l

PART II: FINAL REGULATORY ACTION

2.	FINAL REGULATORY ACTION	
2.1	The chemical is: <input checked="" type="checkbox"/> banned	OR <input type="checkbox"/> severely restricted
2.2	Information specific to the final regulatory action	
2.2.1	Summary of the final regulatory action Banned for import, production, having in possession and use as an agricultural pesticide.	
2.2.2	Reference to the regulatory document Notification of Ministry of Industry dated 26 May 2000, published in the Royal Gazette volume no. 117, section 61 Ng, dated 23 June 2000.	
2.2.3	Date of entry into force of the final regulatory action 24 June 2000.	

2.3	Was the final regulatory action based on a risk or hazard evaluation?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	If yes, give information on such evaluation	
	The oral acute LD ₅₀ = 90 mg/kg is very high risk for humans.	
	Reference to the relevant documentation	
	The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification. 1996-1997	

2.4	Reasons for the final- regulatory action	
2.4.1	Is the reason for the final regulatory action relevant to the human health?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	
	Very high acute toxicity, extremely hazardous and risk to workers in formulating plants and during application by spraying.	
	Reference to the relevant documentation	
	The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification, 1996-1997	
	Expected effect of the final regulatory action	
	No poisoning case caused by azinphos-methyl is reported.	

2.4.2	Is the reason for the final regulatory action relevant to the environment?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	If yes, give summary of the known hazards and risks to the environment		
	Reference to the relevant documentation		
	Expected effect of the final regulatory action		

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	<input type="checkbox"/> Industrial	
	Use or uses prohibited by the final regulatory action		
	Use or uses that remain allowed		

2.5.2	Final regulatory action has been taken for the chemical category	<input checked="" type="checkbox"/> Pesticide
	Formulation(s) and use or uses prohibited by the final regulatory action	
	All formulations and uses were prohibited by the final regulatory action.	
	Formulation(s) and use or uses that remain allowed	
	None	

2.5.3 Estimated quantity of the chemical produced, imported, exported and used, where available.		
	Quantity per year (MT)	Year
Produced	-	-
Imported	-	-
Exported	-	-
Used	-	-

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

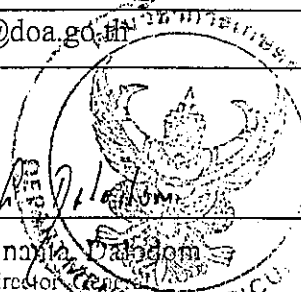
2.7 Other relevant information that may cover:	
2.7.1	Assessment of socio-economic effects of the final regulatory action

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	Department of Agriculture
Address	50 Phaholyothin Rd., Chatuchak, Bangkok 10900 Thailand
Telephone	66 - 2 - 5790586
Telefax	66 - 2 - 5615024
E-mail address	anantad@doa.go.th
Designated National Authority	
Institution	Department of Agriculture
Address	50 Phaholyothin Rd., Chatuchak, Bangkok 10900 Thailand
Name of person in charge	Dr. Ananta Dalodom
Position of person in charge	Director - General
Telephone	66 - 2 - 5790586
Telefax	66 - 2 - 5615024
E-mail address	anantad@doa.go.th

Date, signature of DNA and official seal: X


 Mr. Ananta Dalodom
 Director General

