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INTERIM CHEMICAL REVIEW COMMITTEE
Third session
Geneva, 17 – 21 February 2002
Item 6 (a) on the provisional agenda *

INCLUSION OF CHEMICALS IN THE INTERIM PRIOR INFORMED CONSENT PROCEDURE - REVIEW OF NOTIFICATIONS OF FINAL REGULATORY ACTIONS TO BAN OR SEVERELY RESTRICT A CHEMICAL

DNOC

Note from the secretariat

1. Annexed to this note is additional documentation provided by the Designated National Authority of Thailand to the Chair of the Task Group of the Interim Chemical Review Committee, Mr. M. Debois, in support of their notification of final regulatory action on DNOC.

* UNEP/FAO/PIC/ICRC.3/1

IL 8/30

COMMISSION EUROPÉENNE
DG DEVELOPPEMENT

Politique de Développement et Questions sectorielles
Environnement et Développement rural

Bruxelles, le 06/02/02
D(2002)

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Nombre de pages:	1 + 14		
Objet:	**ICRC – 3 / DNOC and Dinoterb**		

Message:

Bill, Gerold,

As coordinator for the Task Group on DNOC and Dinoterb, I received from Thailand additional information which was used by the Thaï Committee to take the regulatory actions concerning the two active substances.

The information is of importance for the discussions of the Committee, so I ask you to make it available to the Committee, if possible before the meeting.

Best regards,

Marc Debois

PS : Could you please let me know if appropriate equipement will be available for power point presentation (also on Saturday 16)? Thanks.

Cc : R. Arndt ; J. Foley (sans annexes)

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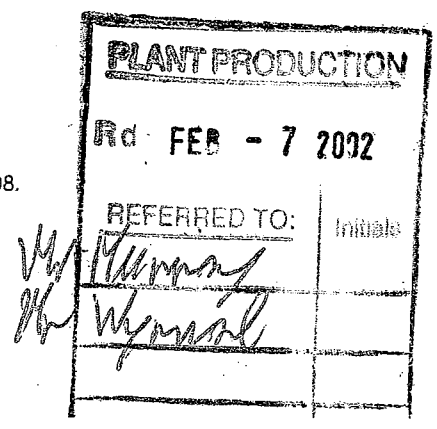

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To : Mr. Julian FOLEY, **Date :** 6 Feb. 02

..... **Ref :** .....

..... **Number of Pages** 15

Fax No : 322 - 295 6117

From : Dr. Nuansri Tayaputch

Director, Division of Agricultural Toxic Substances

Fax No. : (662) 5614695

Dear .....

P1

(COPY)

No. AC 0912/ 477

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

Dear Sir,

Subject : Rotterdam Convention - dinoterb and DNOC - ICRC 3 discussions

Please refer to your facsimile message dated 22 January 2002. I'm attaching herewith the papers that Department of Agriculture submitted to the Hazardous Substances Committee. These papers are submitted as information papers for the committee to make decision whether the proposed chemicals should be banned or not.

Dr. Nuansri Tayaputch, Director of Agricultural Toxic Substances Division of our Department is a person I wish to recommend you to include in the consultation. She is preparing to get approval from the Ministry to attend the third ICRC.

With kind regards.

Yours sincerely,

Mr.Somsak Singholka
Director General
Department of Agriculture

Mr. Julian FOLEY,
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Criteria to Categorize the Type of Hazardous Substances According to Hazardous Substances Act (B.E. 2535)

No.	Name	Toxicity			Exposure			Environmental Fate		
		Acute	Chronic	Special	Occupational H.	User	Non-user	Persistence	Bioaccumulation	Non-target
9	DNOC	Oral (rats) : 25-40 mg/kg Percutaneous (rats) : 200-600 mg/kg Inhalation (rats) : 0.06-0.015 mg/l	-NOEL : (rats & rabbits, 6 m) > 100 mg/kg diet (dogs) 20 mg/kg diet - there is a danger of chronic poisoning with repeated uptake	-	dermal contact and inhalation		oral cousump -tion of contami- nated food	half-life : a few weeks- 2 months (in soil 0.1-12 days, in water 3-5 weeks)	in man, DNOC acts as a powerful cumulative metabolic poison	moderate to low toxicity under field condition

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Import statistics (kg. a.i.)								Banned and restricted situation in other countries	Remarks
1982	1983	1984	1985	1986	1987	1988	1989-1998		
-	-	-	-	-	-	-	No import	1. **Belize DNOC** is a prohibited pesticide. It shall not be brought into or used in Belize. Its possible effects on the environment, plants, animals or human beings are considered to be too dangerous to justify its use. (since 1985) 2. **Russia DNOC** is severely restricted for us as a pesticide. Its use as herbicide is prohibited because it is highly toxic and highly cumulative, with embryotoxic and gonadotoxic properties.(since 1986) 3. Sweden Banned because of its high acute toxicity.(since 1966)	

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DNOC

Chemical Abstract Number (CAS #)	534521
Synonyms	4,6-Dinitro-o-cresol
	2-Methyl-4,6-dinitrophenol
	Phenol, 2-methyl-4,6-dinitro-
	DNOC
Analytical Methods	EPA Method 604
	EPA Method 625
	EPA Method 8040A
	EPA Method 8250A
Molecular Formula	$C_7H_6N_2O_5$

Use	INSECTICIDE, FUNGICIDE, HERBICIDE. DEFOLIANT. FORMER USE IN DYESTUFF INDUSTRY. FORMER USE CONTACT HERBICIDE FOR THE CONTROL OF BROAD-LEAVED WEEDS IN CEREALS AT LESS THAN 10 KG/HA AND IN EMULSIFIABLE CONCENTRATE FORMULATIONS, FOR THE PRE-HARVEST DESICCATION OF POTATOES AND LEGUMINOUS SEED CROPS. FORMER USES CONTACT INSECTICIDE, TOXIC TO EGGS OF CERTAIN INSECTS, INSECTICIDAL. USES LIMITED, BY PHYTOTOXICITY, TO DORMANT SPRAYS ON TREE FRUITS & RASPBERRY. FUNGICIDAL ACTIVITY AGAINST OVERWINTERING VENTURIA INAEQUALIS ON ORCHARD FLOOR, ALSO AGAINST FOREIGN FUNGI IN MUSHROOM HOUSES (APPLIED WHEN HOUSES ARE EMPTY). FORMER USE 4,6-Dinitro-o-cresol is used as a dormant spray insecticide, especially for fruit trees or on waste ground, to kill locusts and other insects. Former use AT ONE TIME IT WAS USED MEDICALLY AS A WEIGHT-REDUCING AGENT SIMILAR TO DINITROPHENOL. FORMER USE
Apparent Color	YELLOW PRISMS OR NEEDLES FROM ALCOHOL
Odor	ODORLESS
Boiling Point	312 deg C
Melting Point	87.5 DEG C
Molecular Weight	198.13

Environmental Impact	Insecticidal spraying is probably the major emission source of 4,6-dinitro-o-cresol to the environment where it is still being used. In addition, wastewater effluents from chemical plants have been found to contain 4,6-dinitro-o-cresol. If released to soil, 4,6-dinitro-o-cresol will usually disappear within a few weeks to 2 months when applied at normal pesticidal rates. Biodegradation is probably the main removal process from agricultural soils. Estimated Koc values (225-590) suggest that 4,6-dinitro-o-cresol will have medium to low soil mobility. If released to water, direct photolysis may occur since 4,6-dinitro-o-cresol absorbs light in the environmentally important range of the spectrum; The half-life for photooxidation via peroxy radicals has been estimated to be 58 days. The significance of biodegradation in natural waters cannot be predicted with certainty from the available data; The results of one screening study suggest that concentration may be an important factor in determining the ability of microbes to biotransform 4,6-dinitro-o-cresol. Aquatic hydrolysis, volatilization, bioconcentration, and adsorption to sediments are not expected to be important fate processes. If released to air, 4,6-dinitro-o-cresol may exist in both the vapor and adsorbed (to particulates) phases. In the vapor- phase, it will react rapidly with photochemically produced hydroxyl radicals at an estimated half-life rate of 8 hours. Particulate-phase 4,6-dinitro-o- cresol will be susceptible to wet and dry deposition. General population exposure to 4,6-dinitro-o-cresol may occur through oral consumption of contaminated food, however, it is unlikely that contamination of human food-stuffs will occur to any large extent since the primary pesticide use of the compound involves treatment of fruit trees during the dormant season. Risk of dermal and inhalation exposure is greatest to those workers involved in manufacturing, formulating or applying the pesticide as an aerosol.
	TERRESTRIAL FATE: LABORATORY STUDIES COMPARED THE RATE OF BREAKDOWN OF DINITRO-O-CRESOL AND 2,4-D IN CEREAL-CROPPED SOILS TREATED FOR 12 YEARS WITH THESE HERBICIDES AND IN SOIL

TREATED FOR THE FIRST TIME. THE FATE IN PERCENT OF THE ORIGINAL DOSE REMAINING PLOTTED AGAINST TIME IS SHOWN. IN BOTH LONG-TREATED AND UNTREATED SOILS THE DNOC BREAKDOWN PROCEEDED AT ABOUT THE SAME RATE. TERRESTRIAL FATE: 4,6-Dinitro-o-cresol usually disappears from soil within a few weeks to 2 months when applied at normal pesticidal rates . Biodegradation is probably the main removal process from agricultural soils ; 4,6-Dinitro-o-cresol has been observed to significantly increase CO2 evolution from soil microflora at low concentrations. Estimated Koc values (225-590) suggest that 4,6-dinitro-o-cresol will have medium to low soil mobility; The greatest mobility can be expected in coarse-textured sandy soils and the least mobility in fine textured clay and organic soils. AQUATIC FATE: Aquatic hydrolysis, volatilization, bioconcentration, and adsorption to sediments are not expected to be important fate processes with respect to 4,6-dinitro-o-cresol. Direct photolysis may occur since 4,6-dinitro-o-cresol absorbs light at >290 nm. The half-life for photooxidation via peroxy radicals has been estimated to be 58 days. The significance of biodegradation in natural waters cannot be predicted with certainty from the available data; The results of one screening study suggest that concentration may be an important factor in determining the ability of microbes to biotransform 4,6-dinitro-o-cresol(1,SRC). ATMOSPHERIC FATE: Based on vapor pressure of 1.05X10-4 mm Hg at 25 deg C , 4,6-dinitro-o-cresol may exist in both the vapor-phase and adsorbed to the particulate phase in the atmosphere. In the vapor-phase, 4,6-dinitro-o-cresol will react rapidly with photochemically produced hydroxyl radicals at an estimated half-life rate of 8 hr. Particulate-phase 4,6-dinitro-o-cresol will be susceptible to wet and dry deposition. Wet deposition is not expected to be important with respect to vapor-phase 4,6-dinitro-o-cresol(2,SRC). Terrestrial and Aquatic Fate: Chemical, microbial, and photochemical decomposition, volatilization, movement, organism uptake, and absorption are the principal factors affecting the fate and

Environmental Fate

behavior of pesticides in soil and water systems. The relative importance of any of these factors is dependant on the physicochemical factors of both the soil and the chemical. Pesticides/ EFFL: 4,6-Dinitro-o-cresol has been detected (no concn reported) in the wastewater effluents from two US chemical plants . It was qualitatively detected in the wastewater from the Oak Ridge Gaseous Diffusion Plant . It has been detected in the wastewaters of a pest control plant in England and in the wastewaters of a specialty chemical plant at a concn of 18 ppm .