



UNEP



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

First meeting

Geneva, 11–18 February 2005

Item 7 (c) of the provisional agenda*

**Inclusion of chemicals in Annex III of the Rotterdam Convention:
review of notifications of final regulatory actions to ban
or severely restrict a chemical: endrin**

Endrin: supporting documentation from Japan

Note by the secretariat

The secretariat has the honour to provide, in the annex to the present note, the supporting documentation provided by Japan in support of its final regulatory action on endrin.

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

Annex

The Japanese DNA for the PIC Convention would like to submit the following information on our notification of final regulatory action on Endrin.

I. Supporting Documentation

1. Properties referenced in Section 1.8 of the notification form

See Annex 1 and 2 to this document.

2. Risk or hazard evaluation referenced in Section 2.3 of the notification form

See Annex 3 to this document.

3. Relevant documentation for Section 2.4.1, referring to protecting human health

As a result of the test conducted under the Law Concerning the Evaluation of Chemical Substances and Regulation of their Manufacture, etc. (abbrev. the Chemical Substances Control Law), it was found that Endrin is persistent, highly bio-accumulative and toxic for long time, and may cause irreversible environmental pollution and have adverse effects on human health and environment.

4. Any other information used in making the decision to ban this chemical

No information

II. Trade Information

1. Ongoing trade

There is no ongoing trade occurring.

2. Manufacture within Japan and the export destination if manufactured

69t of Endrin was manufactured in Japan between 1971 and 1974 as agricultural chemicals.

3. The date the chemicals were last imported into Japan

No information

Focused Summary

1. Introduction

- a) The events that led to the regulatory action

The regulation on manufacture, import, sale, use and possession of Endrin was strengthened by the Chemical Substances Control Law and The Agricultural Chemicals Regulation Law, as a result of tests funding Endrin is persistent, highly bio-accumulative and toxic for long time, and may cause irreversible environmental pollution and have adverse effects on human health and environment.

- b) Significance of regulatory action

In 1971, the distribution of agricultural insecticide products of Endrin was cancelled in accordance with the order from the Ministry of Agriculture, Forestry and Fisheries for banning or restricting the distribution of organochlorine pesticide.

After the order was enforced, the end products of Endrin for citrus fruits were only distributed between 1971 and 1975.

In 1975, the pesticide registration of the end products of Endrin was voluntarily cancelled by the registrant. Therefore, since 1975, the end products of Endrin have not been distributed.

- c) An overview of the regulatory system of the notifying country

The Ministry of Health, Labour and Welfare, the Ministry of Economy, Trade and Industry and the Ministry of the Environment are responsible for the regulation of chemical substances which are persistent, highly bio-accumulative and toxic for long time. Once a chemical is classified as Class 1 Specified Chemical Substance, manufacture, import, sale, use and possession of the chemical are practically banned. Registration standards are pre-determined, publicly available selection criteria.

The Ministry of Agriculture, Forestry and Fisheries is responsible for the regulation of any kinds of chemicals used as agricultural pesticide. Under the Agricultural Chemicals Regulation Law, manufacture, process and import of such chemical is banned unless registered. Pre-determined, publicly available selection criteria are applied to the data a registrant is required to submit.

- d) Scope of the regulatory action

Since 1975, Endrin's use, manufacture, etc. have been banned for any purposes and all formulations, and there is no product including the chemical in Japan.

2. Risk Evaluation

- a) Key findings of the national risk evaluation,
b) Key data reviews consulted and a brief description,
and c) Reference to national studies

See Annex 3 to this document.

- d) Summary of actual human exposure / environmental fate

As a result of the final regulatory action, the use of Endrin has phased out, resulting in reduced human exposure to the substance.

4. Risk Reduction and Relevance to Other States

- a) Estimates of the quantity of chemicals used, or imported/exported at the time of the regulatory action,

info on ongoing trade

There was no case of international trade of Endrin at the time of the regulation. There is no information on ongoing trade.

b) Relevance to other states

No information

c) Comments on the typical use of the chemical within the notifying country, possible misuse

Until 1975, Endrin had been used as agricultural pesticide. Possible misuses are overuse and use without safeguard..

Annex 1**Physico-chemical properties of Endrin**

Mol Formula: C₁₂H₈Cl₆O

Mol Weight : 380.91

Melting Pt : 226-230 deg C

Boiling Pt :

Water Solubility:

Value : 0.25 mg/L

Temp : 25 deg C

Type : EXP

Ref : BIGGAR,JW & RIGGS,RI (1974)

Log P (octanol-water):

Value : 5.20

Type : EXP

Ref : DEBRUIJN,J ET AL. (1989)

Vapor Pressure:

Value : 3E-006 mm Hg

Temp : 20 deg C

Type : EXP

Ref : NASH,RG (1983A)

pKa Dissociation Constant:

Value : n/a

Temp : n/a

Type : n/a

Ref : n/a

Henry's Law Constant:

Value : 6.36E-006 atm-m³/mole

Temp : 25 deg C

Type : n/a

EXP Ref : ALTSCHUH,J ET AL. (1999)

Atmospheric OH Rate Constant:

Value : 9.2E-012 cm³/molecule-sec

Temp : 25 deg C

Type : EST

Ref : MEYLAN,WM & HOWARD,PH (1993)

Source; Syracuse Research Corporation (SRC)

<http://esc.syrres.com/interkow/webprop.exe?CAS=57-74-9&submit=Submit+CAS>

Annex 2**Description of toxicological properties of Endrin**

Documents on evaluation which led to the final regulatory action have been lost. The examination data collected from relative document are summarized as follow.

i) Toxicological properties

(long-term toxicity)

[rat]

The rise of mortality rate above 50ppm(male) or 25ppm(female)
 The sthenia of sensitivity for external stimuli, occasionally spasm, above 50ppm
 The diffuse degeneration in brain, liver, kidney and adrenal of deceased rat above 25ppm
 or liver of live rat above 50ppm
 (ADI)
 0.2ug/kg/day
 (other data)
 Nausea, vomiting, headache, abdominal discomfort, spasm, unconsciousness and etc. will
 occur if one eats bread including endrin of 48 - 1807ppm

Another support document for toxicity
 (RTECS)
 LDLO Oral: 171mg/kg (Man)
 LDLO Oral: 234mg/kg (Woman)
 LDLO Oral: 5mg/kg (Cat)
 LDLO Oral: 2mg/kg (Chicken)
 LD50 Oral: 3mg/kg (Rat)
 LD50 Oral: 1370ug/kg (Mouse)
 LD50 Skin: 12mg/kg (Rat)
 LD50 Skin: 60mg/kg (Rabbit)
 LD50 Intraperitoneal: 400ug/kg (Mouse)
 LD50 Intravenous: 2300ug/kg (Mouse)

Acute toxicity

Animal	Route	LD ₅₀ mg/kg body-weight	References
Adult rat (female)	Oral	7.3	Treon et al., 1955
Young rat (female)	Oral	16.8	Treon et al., 1955
Adult rat (male)	Oral	40-43.4	Speck & Maaske, 1958 Treon et al., 1955
Young rat (male)	Oral	28.8	Treon et al., 1955
Rabbit (female)	Oral	7-10	Treon et al., 1955
Guinea-pig	Oral	approx. 16-36	Treon et al., 1955
Monkey	Oral	approx. 3	Treon et al., 1955

Reference: IPCS INCHEM JMPR-Monographs & Evaluations
<http://www.inchem.org/documents/jmpr/jmpmono/v065pr24.htm>

Annex 3

Risk or hazard evaluation

The government of Japan anticipates that persistent and highly bio-accumulative chemical substances with long-term toxicity (e.g. PCBs) may cause irreversible environmental pollution and have adverse effects on human health or environment.

In order to prevent environmental pollution, the Chemical Substances Control Law stipulates that hazardous properties of chemicals should be checked based on the existing knowledge or by the tests which are consistent with the methods of the OECD Test Guidelines, conducted by the OECD GLP facilities.

If persistent and highly bio-accumulative properties with long-term toxicity are detected from chemical substances, they are classified as Class I Specified Chemical Substances and are subject to the final regulatory action (ban on manufacture, import, and use).

Reference to the relevant documentation

BIODEGRADATION AND BIO ACCUMULATION DATA OF EXISTING CHEMICALS
 (by The Chemicals Evaluation and Research Institute, Japan: CERI)

http://qsar.cerij.or.jp/cgi-bin/DEGACC/result_head.cgi?STRID=00334&LANG=ENG
