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PIC CIRCULAR XLV (45) – June 2017



ROTTERDAM CONVENTION

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

PIC CIRCULAR XLV (45) – June 2017

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INTRODUCTION

1. THE PURPOSE OF THE PIC CIRCULAR

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals in International Trade entered into force on 24 February 2004.

The purpose of the PIC Circular is to provide all Parties, through their Designated National Authorities (DNAs), with the information required to be circulated by the Secretariat in line with Articles 4, 5, 6, 7, 10, 11, 13 and 14. The decision guidance documents dispatched to Parties in line with paragraph 3 of Article 7 are sent out in a separate communication.

The PIC Circular is published every six months, in June and December. The present Circular contains information related to and received in the period from 1 November 2016 to 30 April 2017. In order to allow time for processing the information received in preparation of the PIC Circular, information received after 30 April 2017 has generally not been included, and will be included in the next PIC Circular.

Considerable efforts have been made by the Secretariat to ensure that the information included in the PIC Circular is both complete and accurate. DNAs are requested to review the information relating to their countries and communicate any inconsistencies, errors or omissions to the Secretariat.

2. IMPLEMENTATION OF THE ROTTERDAM CONVENTION

2.1 Designated national authorities (Article 4)

In line with paragraph 4 of Article 4 of the Convention, the Secretariat shall inform Parties of the notifications of designations or changes to Designated National Authorities (DNAs). A complete Register of DNAs containing all contact details is distributed together with the present PIC Circular. This information is also available on the Rotterdam Convention website (www.pic.int).

2.2 Notifications of final regulatory action to ban or severely restrict a chemical (Article 5)

In line with paragraph 3 of Article 5 of the Convention, the Secretariat circulates summaries of notifications of final regulatory action that have been verified to contain the information required by Annex I to the Convention. In addition, the Secretariat circulates a synopsis of all of the notifications of final regulatory action received, including information regarding those notifications that do not contain all the information required by Annex I to the Convention.

A synopsis of all the notifications of final regulatory action received from Parties since the last PIC Circular has been prepared. **Part A** of **Appendix I** of the PIC Circular contains a synopsis of notifications that have been verified as containing all the information required in Annex I to the Convention. **Part B** contains a list of notifications received, over the same period, that have been verified as not containing the information required in Annex I to the Convention. **Part C** lists notifications received which are still under verification by the Secretariat.

Part A of **Appendix V** contains a list of all the notifications of final regulatory action for chemicals not listed in Annex III received during the interim PIC procedure and the current PIC procedure (September 1998 to 30 April 2017) and verified as containing all the information required in Annex I to the Convention. **Part B** contains a list of notifications received, over the same period, that have been verified as not containing all the information required in Annex I to the Convention.

Parties that have adopted final regulatory actions are to notify the Secretariat within the timeframes established in paragraphs 1 and 2 of Article 5. The Secretariat would like to draw the attention of Parties to the chemicals for which at least one complete notification already exists and that, upon receipt of a second notification, the Secretariat shall forward these to the Chemical Review Committee.

Information on notifications submitted by Parties for the chemicals listed in Annex III to the Convention verified as containing the information required in Annex I to the Convention have been included on the Convention website in the section titled “Database of notifications.”

Finally, a synopsis of all notifications received before the adoption of the Convention (under the original prior informed consent (PIC) procedure) was published in **PIC Circular X** in December 1999 and is available from the Rotterdam Convention website. The notifications submitted before the adoption of the Convention do not meet the requirements of Annex I because the information requirements for notification under the original PIC procedure were different than those of the Convention. It is to be noted that although Parties are not obliged to resubmit notifications submitted under the original PIC procedure (paragraph 2 of Article 5 of the Convention), they may wish to consider doing so for those chemicals not presently listed in Annex III, in the event that sufficient supporting information is available.

In order to facilitate the submission of notifications, a **form for notification of final regulatory action to ban or severely restrict a chemical and instructions on how to complete** it have been developed. Copies of the form and the instructions can be obtained from the Rotterdam Convention website or the Secretariat (pic@fao.org, pic@pic.int, pic@brsmeas.org) upon request. Notifications of final regulatory action must be submitted through the official channel of communication for the Party.

2.3 Proposals for inclusion of severely hazardous pesticide formulations (Article 6)

In line with paragraph 2 of Article 6 of the Convention, the Secretariat circulates summaries of those proposals for inclusion of severely hazardous pesticide formulations in the PIC procedure, which the Secretariat has verified to contain the information required by Part 1 of Annex IV to the Convention.

Summaries of proposals received from Parties are provided in **Part A of Appendix II** of the PIC Circular. Parties that have submitted proposals which are still under verification by the Secretariat are listed in **Part B** of this Appendix.

Proposals received from Georgia for the inclusion in Annex III to the Convention of lambda-cyhalothrin (emulsifiable concentrate of 50g/L active ingredient) and lambda-cyhalothrin (capsules suspension of 50g/L active ingredient) as severely hazardous pesticide formulations are presented in **Part A of Appendix II**.

In order to facilitate the submission of proposals, an **incident report form for human health incidents involving severely hazardous pesticide formulations** and an **incident report form for environmental incidents involving severely hazardous pesticide formulations** have been developed. Copies of these forms and instructions for how to complete them may be obtained from the Rotterdam Convention website or the Secretariat upon request.

Proposals to the Secretariat must be submitted through the Designated National Authorities of the Parties.

2.4 Chemicals subject to the PIC procedure and distribution of decision guidance documents (Article 7)

Appendix III of the PIC Circular lists all chemicals that are currently listed in Annex III to the Convention and subject to the PIC procedure, their categories (pesticide, industrial chemical and severely hazardous pesticide formulation) and the date of first dispatch of the corresponding decision guidance document to DNAs.

The eighth meeting of the Conference of the Parties to the Rotterdam Convention (24 April–5 May 2017, Geneva) decided to amend Annex III to the Convention to include the following chemicals, making them subject to the PIC Procedure, and decided to approve the related Decision Guidance Documents:

| Chemical | Relevant CAS number(s) | Category | Decision |
|---|---|------------|----------|
| Carbofuran | 1563-66-2 | Pesticide | RC-8/2 |
| Trichlorfon | 52-68-6 | Pesticide | RC-8/3 |
| Short-chain chlorinated paraffins | 85535-84-8 | Industrial | RC-8/4 |
| All tributyltin compounds including: - Tributyltin oxide - Tributyltin fluoride - Tributyltin methacrylate - Tributyltin benzoate - Tributyltin chloride - Tributyltin linoleate - Tributyltin naphthenate | 56-35-9 1983-10-4 2155-70-6 4342-36-3 1461-22-9 24124-25-2 85409-17-2 | Industrial | RC-8/5 |

The amendments shall enter into force for all Parties on 15 September 2017.

The Conference of the Parties was not able to reach consensus on the inclusion of carbofuran in the category of pesticide and fenthion (ultra low volume (ULV) formulations at or above 640 g active ingredient/L) in the category of severely hazardous pesticide formulation. However, by its decisions RC-8/6 and RC-8/7 respectively, the Conference of the Parties decided that the requirements set out in, *inter alia*, the relevant parts of Articles 5, 6 and 7 of the Convention have been met. In addition it was decided that the ninth meeting of the Conference of the Parties will further consider amending Annex III to the Rotterdam Convention to include carbofuran and fenthion (ultra low volume (ULV) formulations at or above 640 g active ingredient/L).

Further, the Conference of the Parties, in its decision RC-8/8 decided to establish a working group with membership composed of representatives from Parties to identify a set of prioritized recommendations for enhancing the effectiveness of the Convention, and to develop a report identifying further steps for consideration by the Conference of the Parties at its ninth meeting. The working group is open to participation by non-Party States.

2.5 Export notifications (Article 12)

Article 12 and Annex V to the Convention set out the provisions and information requirements related to export notifications. Where a chemical that is banned or severely restricted by a Party is exported from its territory, that Party shall provide an export notification to the importing Party, which shall include the information in Annex V. The importing Party has the obligation to acknowledge receipt of the export notification.

Following discussions at the third meeting of the Conference of the Parties the Secretariat developed a **standard form for export notification** in order to assist Parties in meeting their obligations under the Convention. Copies of the form may be obtained from the Rotterdam Convention website or the Secretariat upon request. Parties are encouraged to use this form when making or acknowledging receipt of export notifications. Where there are forms that have been developed at the national level that meet the information requirements of Annex V to the Convention they may continue to be used.

The Conference of the Parties at its eighth meeting recalled its previous decision RC-7/2 and urged Parties to continue implementing this decision and the effective implementation of the Convention, including the obligations under paragraph 2 of Article 11 and under Article 12 of the Convention. It also invited Parties to reply to the questionnaire on paragraph 2 of Article 11 and Articles 12 and 14 of the Convention.

2.6 Information to accompany exported chemicals (paragraph 1 of Article 13)

In accordance with paragraph 1 of Article 13 of the Convention, the World Customs Organization (WCO) has assigned specific Harmonized System (HS) customs codes to the individual chemicals or groups of chemicals listed in Annex III to the Rotterdam Convention. These codes entered into force on 1 January 2007. For the chemicals listed in Annex III after 2011, HS codes are expected to be assigned by the WCO in 2017.

Each Party shall require that whenever a HS customs code has been assigned to a chemical listed in Annex III, the shipping document carries this assigned code when the chemical is exported.

A table containing this information is also available on the Rotterdam Convention website (www.pic.int/tabid/1159/Default.aspx).

2.7 Transmission of a response concerning future import of a chemical (paragraphs 2, 3 and 4 of Article 10)

In accordance with paragraph 2 of Article 10 of the Convention, each Party shall transmit to the Secretariat, as soon as possible, and in any event not later than nine months after the date of dispatch of the decision guidance document, a response concerning the future import of the chemical concerned. If a Party modifies this response, the Party shall forthwith submit the revised response to the Secretariat.

Paragraph 7 of Article 10 of the Convention states that, each Party shall, no later than the date of entry into force of the Convention for that Party; transmit to the Secretariat import responses for each of the chemicals listed in Annex III to the Convention.

In line with paragraph 4 of Article 10 of the Convention, the response shall consist of either a final decision or an interim response. The interim response may include an interim decision regarding import. The response must relate to the category or categories specified for the chemical in Annex III to the Convention.

As at 30 April 2017, the following Parties have submitted import responses for all 47 chemicals listed in Annex III to the Convention: Albania, Australia, Bosnia and Herzegovina, Brazil, China, Cook Islands, Chad, El Salvador, European Union (on behalf of its member states), Guinea-Bissau, Malaysia, Mauritius, Niger, Norway, Senegal, Serbia, Switzerland, The former Yugoslav Republic of Macedonia and United Republic of Tanzania. 110 Parties have not yet provided import responses for one or more of the chemicals listed in Annex III to the Convention. Of these, the following 13 Parties have failed to provide any import responses: Afghanistan, Botswana, Djibouti, Lesotho, Maldives, Marshall Islands, Montenegro, Namibia, Sierra Leone, Saint Vincent and the Grenadines, Somalia, Tunisia and Ukraine.

When the Convention enters into force for new Parties, the Secretariat sends a welcome package. The package contains all information relevant to the implementation of the Convention together with the request for the submission of import responses.

The list of “Cases of failure to transmit a response” in **Appendix IV** of the PIC Circular serves as a further reminder of the need to submit import responses for all chemicals in Annex III.

In order to facilitate the submission of responses regarding import, a **form for import response and instructions on how to complete it** have been developed. Copies of the form and the instructions can be obtained from the Rotterdam Convention website or the Secretariat upon request.

Import responses must be submitted through the official channel of communication for the Party.

2.8 Information on responses received concerning future import of a chemical (paragraph 10 of Article 10 and paragraph 2 of Article 11)

Paragraph 10 of Article 10 states that every six months the Secretariat shall inform all Parties of the responses it has received, including a description of the legislative or administrative measures on which the decisions have been based, where available. The Secretariat shall, in addition, inform the Parties of any cases of failure to transmit a response.

Beginning with the volume XLIV, December 2016, the PIC Circular has been streamlined. **Appendix IV** includes an overview of new import responses received in the last six months. The sections of **Appendix IV** that include all import responses and a list of the Parties that failed to transmit an import response are available via hyperlink to the online database on the Convention website.¹ The objective is to make better use of the online database which is updated on an ongoing basis.

The Secretariat encourages Parties to submit any outstanding import responses for each of the 47 chemicals listed in Annex III to the Convention as at 30 April 2017 and wishes to draw the attention of DNAs to paragraph 2 of Article 11 of the Convention in relation to the failure to transmit a response or the transmission of an interim response that does not contain an interim decision.

2.9 Information exchange on chemicals recommended by the Chemical Review Committee for listing in Annex III but for which the Conference of the Parties has yet to take a final decision (Decisions RC-3/3, RC-4/4, RC-6/8, RC-8/6 and RC-8/7)

Paragraph 1 of Article 14 states that each Party shall, as appropriate and in accordance with the objective of this Convention, facilitate: a) the exchange of scientific, technical, economic and legal information concerning the chemicals within the scope of this Convention, including toxicological, eco-toxicological and safety information; b) the provision of publicly available information on domestic regulatory actions relevant to the objectives of this Convention; and c) the provision of information to other Parties, directly or through the Secretariat, on domestic regulatory actions that substantially restrict one or more uses of the chemical, as appropriate.

The Conference of the Parties, in its decisions RC-3/3 and RC-4/4 on inclusion of chrysotile asbestos in Annex III, decision RC-6/8 on consideration of liquid formulations (emulsifiable concentrate and soluble concentrate) containing paraquat dichloride at or above 276 g/L, corresponding to paraquat ion at or above 200 g/L for listing in Annex III to the Rotterdam Convention, decision RC-8/6 on consideration of carbosulfan for listing in Annex III to the Rotterdam Convention and decision RC-8/7 on consideration of fenthion (ultra low volume (ULV) formulations at or above 640 g active ingredient/L) for listing in Annex III to the Rotterdam Convention encouraged Parties to make use of all information available on these chemicals, to assist others, in particular developing countries and countries with economies in transition, to make informed decisions regarding their import and management and to inform other Parties of those decisions using the information exchange provisions in Article 14 of the Convention. The full text of these decisions may be found in Annex I of the reports of the respective meetings of the Conference of the Parties (UNEP/FAO/RC/COP.3/26, UNEP/FAO/RC/COP.4/24, UNEP/FAO/RC/COP.6/20 and UNEP/FAO/RC/COP.8/27).

In line with these decisions and in the interest of promoting information exchange on chemicals recommended by the Chemical Review Committee for listing in Annex III but for which the Conference of the Parties has yet to take a final decision, **Appendix VI** of the PIC Circular has been added to the Circular in two parts.

Part A provides a reference to the information that has been provided by Parties on national decisions concerning the management of these chemicals. It is a tabular summary which provides details on the Party that submitted the information; the PIC Circular in which the information was circulated; and the web link to the relevant page of Rotterdam Convention website where the information may be found. In the section “Chemicals recommended for listing” on the Rotterdam Convention website, there is

¹ www.pic.int/tabid/1370/Default.aspx.

further information on these chemicals including the notifications of final regulatory action and supporting documentation that was made available to the Chemical Review Committee and the draft decision guidance documents.

Part B is a list of decisions on the future import of these chemicals that have been submitted by Parties under Article 14. These import decisions are circulated for information only and do not constitute part of the legally binding PIC procedure.

This information, as well as further information relevant to the work of the Chemical Review Committee on this chemical, may be accessed directly on the Rotterdam Convention website.

2.10 Information on transit movements (paragraph 5 of Article 14)

As outlined in Article 14, paragraph 5 of the Convention, any Party requiring information on transit movements through its territory of chemicals listed in Annex III may report its need to the Secretariat, which shall inform all Parties accordingly.

Since the last PIC Circular, no Party has reported to the Secretariat its need for information on transit movements through its territory of Annex III chemicals.

3. ADDITIONAL INFORMATION FOR DNAs

3.1 Information on the status of ratification of the Convention

The Convention entered into force on 24 February 2004, on the nintieth day after the date of the deposit of the fiftieth instrument of ratification, acceptance, approval or accession. For each State or regional economic integration organization that ratifies, accepts or approves this Convention or accedes thereto after the deposit of the fiftieth such instrument, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.

As of 30 April 2017 there were 157 Parties to the Rotterdam Convention. The Parties are:

Afghanistan, Albania, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Bahrain, Belgium, Belize, Benin, Bolivia (Plurinational State of), Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Canada, Chad, Chile, China, Colombia, Congo (Democratic Republic of), Congo (Republic of), Cook Islands, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Democratic People's Republic of Korea, Denmark, Djibouti, Dominica, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, European Union, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, Hungary, India, Indonesia, Iran (Islamic Republic of), Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Latvia, Lebanon, Lesotho, Liberia, Libya, Liechtenstein, Lithuania, Luxembourg, Macedonia (the Former Yugoslav Republic of), Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Romania, Russian Federation, Rwanda, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Sierra Leone, Singapore, Slovakia, Slovenia, Somalia, South Africa, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tanzania (United Republic of), Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Uganda, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, Uruguay, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia and Zimbabwe.

For those Parties for whom the Convention entered into force after 30 April 2017, all information will be reported in the next PIC Circular.

The Convention website gives a complete and up-to-date list of the States and regional economic integration organizations that have consented to be bound by the Rotterdam Convention.

3.2 List of documents in support of the implementation of the Rotterdam Convention

The following are documents relevant to the implementation of the Rotterdam Convention. They can be obtained from the Rotterdam Convention website or the Secretariat upon request.

- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (available in Arabic, Chinese, English, French, Russian and Spanish);
- Decision guidance documents for each of the chemicals in Annex III to the Convention (available in English, French and Spanish);
- Form and instructions for notification of final regulatory action to ban or severely restrict a chemical (available in English, French and Spanish);
- Form and instructions for import responses (available in English, French and Spanish);
- Form and instructions for reporting human health incidents and environmental incidents relating to Severely Hazardous Pesticide Formulations (SHPF) (available in English, French and Spanish);
- Export notification form and instructions (available in English, French and Spanish);
- Form for notification of designation of contact(s) (available in English, French and Spanish);
- All past PIC Circulars (available in English, French and Spanish);
- Register of Designated National Authorities for the Rotterdam Convention (available in English).

3.3 Resource Kit of information on the Rotterdam Convention

The Resource Kit is a collection of publications containing information on the Rotterdam Convention. It has been developed with a range of end-users in mind, including the general public, DNAs and stakeholders involved in the implementation of the Convention. It includes elements to assist in awareness-raising activities and detailed technical information and training materials aimed at facilitating implementation of the Convention. All documents contained in the Resource Kit can be obtained from the Rotterdam Convention website or the Secretariat upon request.

The Stepwise Guide is a document developed as an introduction to the Resource Kit and the publications it includes. It provides a brief outline of the content of each publication, indicates the target audience and lists the languages in which they are available (most publications are available in six languages).

The Secretariat can be contacted at the following addresses if there are any queries regarding aspects of the development and operation of the Rotterdam Convention:

**Secretariat for the Rotterdam Convention
(FAO)**

Viale delle Terme di Caracalla
00153 Rome, Italy
Fax: +39 06 5705 3224
E-mail: pic@fao.org

**Secretariat for the Rotterdam Convention
(UNEP)**

11-13, chemin des Anémones
CH-1219 Châtelaine, Geneva, Switzerland
Fax: +41 22 917 8082
E-mail: pic@pic.int; pic@brsmeas.org

APPENDIX I**SYNOPSIS OF NOTIFICATIONS OF FINAL REGULATORY ACTION
RECEIVED SINCE THE LAST PIC CIRCULAR**

This appendix consists of three parts:

Part A: Synopsis of notifications of final regulatory action that have been verified as containing all the information required in Annex I to the Convention

Notifications of final regulatory action that have been verified as containing all the information required in Annex I to the Convention, received between 1 November 2016 and 30 April 2017.

Part B: Notifications of final regulatory action that have been verified as not containing all the information required in Annex I to the Convention

Notifications of final regulatory action that have been verified as not containing all the information required in Annex I to the Convention, received between 1 November 2016 and 30 April 2017.

Part C: Notifications of final regulatory action still under verification

Notifications of final regulatory action that have been received by the Secretariat for which the verification process has not yet been completed.

Synopsis of notifications of final regulatory action received since the last PIC Circular

PART A

SYNOPSIS OF NOTIFICATIONS OF FINAL REGULATORY ACTION THAT HAVE BEEN VERIFIED AS CONTAINING ALL THE INFORMATION REQUIRED IN ANNEX I TO THE CONVENTION

BRAZIL

Common name: Phorate

CAS number: 298-02-2

Chemical name: Phosphorodithioic acid, *O,O*-diethyl S-[(ethylthio)methyl] ester

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: All uses are banned.

Use or uses that remain allowed: None

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Prohibition of all technical and formulated products based on phorate active ingredient. So, the production, use, trade, import and export of phorate had been ban.

The reasons for the final regulatory action were relevant to: Human health.

Summary of known hazards and risks to human health:

Phorate was an insecticide authorized in Brazil exclusively for agricultural use in cotton, potato, coffee, beans and corn. In 2008 Brazilian Health Surveillance Agency (ANVISA) initiated the toxicological reassessment of phorate due to evidences of high acute toxicity and neurotoxicity of this active ingredient of pesticides.

Brazilian law predicts that pesticides may have their registrations cancelled in the country when they fall under the following conditions related to human health: when they have no antidote or effective treatment in Brazil; if found teratogenic, mutagenic or carcinogenic; if they cause hormonal disturbances and damage to the reproductive system or if they are more dangerous to humans than demonstrated with laboratory animals.

Phorate and its metabolites are easily absorbed through skin and mucous membranes and irreversibly block the catalytic activity of acetylcholinesterase (AChE), the enzyme responsible for mediating the hydrolysis of acetylcholine in acetic acid and choline acid. Thus, they interrupt the transmission of nerve impulses in the cholinergic synapses of the central nervous system (CNS), autonomic nervous system (ANS) and neuromuscular junction. Inactivation of AChE causes cholinergic hyperstimulation by the acetylcholine accumulation in the synaptic cleft.

Phorate is considered one of the most toxic organophosphate AChE inhibitors, with mean oral LD50 for mice ranging from 1.4 to 10 mg/kg body weight.

Phorate can cause complex clinical manifestations in humans, such as encephalopathy, intermediate syndrome and polyneuropathy, described by various authors (Young, Jung; Ayer, 1979; Kashyap et al., 1984; WHO/FAO, 1988; Kusic et al., 1991; Dobozy, 1998; Das and Jena, 2000; Thanal, 2001; Jayakumar, 2002; Mission, 2006; Peter; Prabhakar; Picharnuthu, 2008 a; 2008 b).

However, in laboratory animals that received phorate there were no cases of intermediate syndrome or late polyneuropathy, what shows this pesticide is more toxic to humans than demonstrated in tests with laboratory animals, a prohibitive criterion for registration of pesticides in Brazil.

Besides its neurotoxic effects, phorate demonstrated potential to cause adverse effects to the endocrine regulation processes of steroid hormones in humans (Usmani, 2003), which may contribute to increased cancer case (Alavanja, et al., 2002; Mahajan et al., 2006; Koutros et al., 2010).

With regard to human exposure Usha and Harikrishnan (2004) reported several cases of acute poisoning in communities of Kerala, India. Among these cases, 5 of them, occurred between 1999 and 2002, are associated to exposure to phorate. According to the authors, in July 1999, about 12 people living in banana crop areas were severely poisoned by phorate.

After the product use, it rained on the region, causing the product evaporate quickly and spread to nearby area, reaching the homes. Shortly after application of the product, the symptoms appeared and the affected required hospitalization. In June 2001, a 16 year-old boy died as a result of occupational exposure to phorate for a period of one week. That same year, 40 rural women workers in a tea plantation were intoxicated during harvesting,

Symptoms appeared within 30 minutes after exposure, featured by light-headedness, dizziness, blurred vision, vomiting. Thirty seven women had more severe and remained hospitalized for two days. The authors point out that in July 2002, 31 children from an upper primary school were poisoned by phorate applied in plantation nearby school.

The children showed persistent headache, chest pain, breathing difficulty, nausea, giddiness, blurring of vision and stomach pain, and one of them showed uncontrolled muscle twitching and convulsions even after 24 hours of treatment.

On 21 July 2006, 20 residents of Salkiana village, district Jalandhar, India, had to be rushed to a hospital when neurotoxic symptoms of acute exposure to phorate were observed, the product was used in a nearby sugarcane field. The worst affected were the school children of an Elementary School. Teachers and Students started complaining of a strange smell and breathlessness, suddenly one student fell unconscious and then students started to faint. Within ten minutes, 16 students fainted after inhaling something that was toxic, In addition to difficulty breathing, the most frequent symptoms were poorly being, headache, eye irritation, dizziness, nausea, vomiting, lacrimation, salivation excessively muscle cramps and pain, Six days after exposure to phorate, several patients still had symptoms such as eye irritation, dermal reactions and general uneasiness. (Mission, 2006).

Several studies show that agricultural workers exposed to phorate are victims of poisonings and deaths related to toxicity characteristics of the active ingredient. The exposure becomes even more dangerous due to the difficulties relating to the availability and/or inefficiency of PPE, Moreover, this various social issues (low education, low income) and biological (age and gender) are factors that increase the risk and severity of poisoning caused by this organophosphate.

Therefore, from the re-evaluation of the health effects of phorate, completed in 2015, ANVISA concluded this active ingredient of pesticides has the potential to cause hormonal disturbances in humans and is more toxic to humans than demonstrated in tests with laboratory animals, which are prohibitive criteria for registration of pesticides in Brazil.

Phorate was banned in Brazil on March 16, 2014, where it was no longer marketed since 2011.

Expected effect of the final regulatory action in relation to human health: Eliminate the risks posed by phorate.

Date of entry into force of the final regulatory action: 15/06/2015

BURKINA FASO, CABO VERDE, CHAD, GAMBIA, GUINEA-BISSAU, MALI, MAURITANIA, NIGER, SENEGAL, TOGO

Common name: Acetochlor

CAS number: 34256-82-1

Chemical name: 2-chloro-N-ethoxym ethyl-6'-ehtylacet-o-toluidide

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: All formulations containing Acetochlor are banned. All uses are banned.

Use or uses that remain allowed: None

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: On recommendation of the Sahelian Pesticide Committee (CSP), Decision N°002/MC/2017 to ban all products containing Acetochlor was signed on 20 March 2017 by CILSS coordinating Ministry. The final regulatory action entered into force on 20 March 2017. The use of all pesticides containing Acetochlor has been banned due to its potential for water contamination. The import, manufacture for domestic use, distribution and sale are also banned.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health:

- High risk of surface and groundwater contamination by acetochlor and its metabolites;
- Potential risk for human exposure through surface and ground water contamination by the metabolite norchloro acetochlor, which is genotoxic: ground water is used as drinking water reservoir and surface water is used for humans and animals;
- Difficulties for the population in finding suitable personal protection equipment;

- The fragile ecology of CILSS countries, sometimes characterized by torrential rainfall on soils which are very often poor in organic matter and therefore subject to erosion and leaching;
- The absence of an environmental management system respecting buffer stripes between treated fields and streams; this precaution is not possible in the Sahel, entailing an unacceptable risk to human health and the environment;
- The use of Acetochlore is restricted in the USA. It can only be used by certified applicators. It cannot be used on coarse soils (for ex. sandy soil with less than 3% of organic matter) where the depth of ground water is less than 30 feet. Acetochlore cannot be applied with any irrigation system (irrigation by flooding included) nor can it be applied by aerial application. Acetochlor cannot be applied directly on water or in areas where surface water is present. Furthermore, Acetochlore must not be mixed or filled less than 50 feet from surface water or wells, unless adequate confinement or disposal measures exist;
- EFSA report (EFSA, 2011) mentions that health risks for operators were accentuated because the estimated exposure to EC formulations recorded higher values (between 1435 and 5550) than the acceptable operator exposure level (AOEL), despite the use of trailed sprayer;
- Contrary to USA and EU countries, the recommended use in Sahel countries was low volume application (knapsack sprayer) of the formulation diluted with water at doses between 2,5 and 3,5 l/ha on cotton. Frequency of application was once a crop-year. Recommended protection devices were protective clothing, goggles and gloves. The evaluation of applicator exposure to the level of use of acetochlor under recommended conditions of use in the Sahel registered an AEOL value between 15 305 and 20 095 %.

Expected effect of the final regulatory action in relation to human health: Reduction of risks to human health posed by the use of pesticides containing acetochlor.

Summary of known hazards and risks to the environment:

- High risk to non targeted terrestrial plants;
- Long term high risk to herbivorous birds;
- Surface water contamination and high risk to aquatic organisms (surface water concentration: 10.6-76.6 µg/l (Soleri, 2013));
- According to PIRI scenario 1, acetochlor has a high potential for contamination of lakes Lemouroudougou and Karfiguela in Burkina Faso and an extremely high potential according to scenario 3 (Ouedraogo R. et al., 2012);
- High short-term risk to birds drinking contaminated water following post emergence treatment;
- Risk of soil impoverishment in the Sahel.

Expected effect of the final regulatory action in relation to the environment: Reduction of risks to the environment posed by the use of pesticides containing acetochlor.

Date of entry into force of the final regulatory action: 20/03/2017

BURKINA FASO, CABO VERDE, CHAD, GAMBIA, GUINEA-BISSAU, MALI, MAURITANIA, NIGER, SENEGAL, TOGO

Common name: Hexazinon

CAS number: 51235-04-2

Chemical name: 1,3,5-Triazine-2,4(1H,3H)-dione, 3-cyclohexyl-6-(dimethylamino)-1-methyl-

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: All formulations containing Hexazinon are banned. All uses are banned.

Use or uses that remain allowed: None

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: On recommendation of the Sahelian Pesticide Committee (CSP), Decision N°003/MC/2017 to ban all products containing Hexazinon was signed on 20 March 2017 by CILSS coordinating Ministry. The final regulatory action entered into force on 20 March 2017. The use of all pesticides containing Hexazinon has been banned due to its potential for water contamination. The import, the manufacture for domestic use, distribution and sale are also banned.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health:

- High risk of surface and groundwater contamination by Hexazinon.
 - The fragile ecology of CILSS countries sometimes characterised by torrential rainfall on soils which are very often poor in organic matter and therefore subject to erosion and leaching.
 - The absence of an environmental management system respecting buffer stripes between treated fields and streams; this precaution is not possible in the Sahel, entailing an unacceptable risk to human health and the environment;
 - Hexazinon is highly mobile in soil (Koc, GUS);
 - A Canadian study showed that 40% of sampled drinkable water intakes contained up to 6.7 µg/l of Hexazinon. In the Sahel, ground water is used as drinking water reservoir and surface water is used for humans and animals, which represents an unacceptable risk to human health and the environment. Canada has asked buffer stripes in certain sensible areas due to contamination risks to groundwater;
- Potential risk of human exposure through surface and ground water contamination by Hexazinone:
 - The use of surface water as drinking water for humans and animals;
 - The use of groundwater as drinking water reservoir.

Expected effect of the final regulatory action in relation to human health: Reduction of risks to human health posed by the use of pesticides containing Hexazinon.

Summary of known hazards and risks to the environment:

- High risk to non-targeted terrestrial plants;
- High long term risk to herbivorous birds and aquatic organisms in a fragile ecosystem already in danger of extinction;
- High short-term risk to birds drinking contaminated water after treatment;
- Risk of soil impoverishment in the Sahel.

Expected effect of the final regulatory action in relation to the environment: Reduction of risks to the environment posed by the use of pesticides containing Hexazinon.

Date of entry into force of the final regulatory action: 20/03/2017

CHINA

Common name: Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha-isomer

CAS number: 319-84-6

Chemical name: alpha-1,2,3,4,5,6-Hexachlorocyclohexane

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: The production, circulation, use, import and export of alpha-HCH have all been banned in China.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Since March 26th 2014, the production, circulation, use, import and export of alpha-HCH have all been banned in China.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Alpha-HCH is the isomer with the highest neurotoxic potential beside gamma-HCH, Alpha-HCH has been classified as possibly carcinogenic to humans (group 2B) by the International Agency for Research on Cancer (IARC), based on inadequate evidence of carcinogenicity in humans and sufficient evidence for carcinogenicity to animals.

Alpha-HCH causes liver hyperplasia and liver tumors in (laboratory) rodents. From is known that alpha-HCH affects the immune system; animal experiments immunosuppressive effects were observed in humans exposed to technical HCH as well.

Epidemiological studies indicate an elevated incidence of breast cancer after exposure to alpha-HCH as well as hormonal disorders leading to infertility and abortions. A possible association with intrauterine growth retardation and aplastic anemia has been postulated.

Based on the hazard profile and the exposure scenarios it can be concluded that alpha-HCH may adversely affect wildlife and human health in contaminated regions. The United States Environmental Protection Agency

(USEPA) estimated, based on daily intake rates for the Arctic population, and elevated cancer rates, though estimates are very conservative. It has to be considered that the liver is the target organ for all HCH-isomers, thereby leaving the risk of additive effects. Moreover the indigenous Arctic population as well as wildlife are exposed to a broad range of POPs including all HCH isomers and other pollutants leading to probably additive effects. Nevertheless Arctic public health authorities believe the significant social, cultural and economic benefits of traditional foods outweigh the risks of contaminants such as HCH at present but give another reason for the quick control and elimination of all HCH isomers from traditional foods.

Expected effect of the final regulatory action in relation to human health: To protect the environment and human health.

Summary of known hazards and risks to the environment: Alpha-HCH is susceptible to abiotic and biotic degradation at variable rates and degrees, depending on e.g. environmental media, site and climate. Alpha-HCH is expected to rapidly degrade in tropical conditions, whereas it accumulated in colder climates. Alpha-HCH is moderately persistent in soil. Based on values from aquatic compartments i.e. Arctic freshwater and sea water, it can be concluded that alpha-HCH shows high persistence in water in colder regions.

The physico-chemical properties of alpha-HCH allow the dispersal of the substance from its sources to the Arctic by a combination of long-range atmospheric transport and ocean currents. High levels of alpha-HCH have been detected in the Arctic Ocean, where it has built a large reservoir and is present in marine as well as in terrestrial species.

Alpha-HCH exposure levels in local areas have declined after worldwide prohibitions and restrictions. However regions with recent exposure and/or high pollution can still show elevated levels. A special concern also arises from exposure of hazardous waste sites and dumping grounds from disposed alpha-HCH residues from lindane production. Due to its persistence, alpha-HCH can still be detected regularly at low background levels in the environment. Elevated levels have also been reported from the Arctic (levels in the Arctic Ocean are higher than in temperate oceans and lakes). Though alpha-HCH levels in air decreased more than twenty-fold from the 1980s onwards, there has been only a modest change in higher marine and terrestrial predators e.g. fur seals or polar bears.

Because alpha-HCH is present in the terrestrial and aquatic food chains, alpha-HCH may bio-accumulate and bio-magnify in biota and Arctic food webs. The bio-magnification factors (predator-prey comparison) for many of the examined species are greater than 1 (one). Some animals, especially birds, but also mammals, have the potential to metabolize alpha-HCH. As this is an enantioselective biotransformation, a distinctive accumulation of (+) or (-) alpha-HCH can occur in mammals (depending on the species).

Expected effect of the final regulatory action in relation to the environment: To protect the environment and human health.

Date of entry into force of the final regulatory action: 26/03/2014

CHINA

Common name: b-Hexachlorocyclohexane

CAS number: 319-85-7

Chemical name: beta-1,2,3,4,5,6-Hexachlorocyclohexane

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: The production, circulation, use, import and export of beta-HCH have all been banned in China.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Since March 26th 2014, the production, circulation, use, import and export of beta-HCH have all been banned in China.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Beta-HCH is present in terrestrial and aquatic food chains. Beta-HCH may bioaccumulate and biomagnify in biota and Arctic food webs, especially in upper trophic levels. In humans, accumulation in fat tissue and high concentrations in blood and breast milk may occur. Beta-HCH transfers from mothers to embryos and nursing infants.

Toxicological studies with beta-HCH have demonstrated neurotoxicity and hepatotoxicity. Also, reproductive and immunosuppressive effects and effects on fertility were seen in laboratory animals. Beta-HCH has been classified in group 2B as possibly carcinogenic to humans by the International Agency on Research and Cancer (IARC). Several epidemiological studies indicate that beta-HCH might play a role in human breast cancer.

Human exposure to beta-HCH results mostly from ingestion of contaminated plants, animals and animal products. High exposure is expected in contaminated areas due to extensive use, former production, disposal sites and stockpiles.

Given the hazard profile and the exposure levels in the environment including the food chain, it can be concluded that beta-HCH may adversely affect wildlife and human health in contaminated and remote regions including the Arctic region. Arctic public health authorities believe the significant social, cultural and economic benefits of traditional foods outweigh the risks of contaminants such as HCH at present but give another reason for the quick control and elimination of all HCH isomers from traditional foods.

Based on the hazard profile, together with estimated daily intakes of beta-HCH of Arctic indigenous people that exceeds safe intake reference values, and given the widespread occurrence of beta-HCH in biota, including in remote areas far from likely it is concluded that the substance is likely, as a result of its long-range sources, environmental transport, to lead to significant adverse human health and environmental effects.

Expected effect of the final regulatory action in relation to human health: To protect the environment and human health.

Summary of known hazards and risks to the environment: Abiotic degradation processes do not play an important role in the fate of beta-HCH in the environment. Thus photolysis and hydrolysis are not significant. Under favourable conditions, beta-HCH is susceptible to biodegradation. However, compared to the gamma- and alpha-HCH, it is the most recalcitrant isomer. Laboratory and field data including a long-term soil study suggest that beta-HCH is persistent in soil, especially under low temperatures. It is mainly associated with particles and has a low leaching potential.

The physico-chemical properties of beta-HCH allow the dispersal of the substance from its sources to the Arctic mainly by long-range environmental transport via ocean currents. Beta-HCH has been detected in the Arctic Ocean and is present in marine, terrestrial species, and humans.

Beta-HCH exposure levels in local areas have declined after worldwide prohibitions and restrictions. However regions with recent exposure and/or high pollution can still show elevated levels. A special concern also arises from exposure of hazardous waste sites and dumping grounds from disposed beta-HCH residues from lindane production.

Due to its persistence, beta-HCH can still be detected at low background levels in all environmental media except in regions with recent usage and/or high pollution. Data from the abiotic environment in the Arctic are scarce, partly due to low levels compared with the other HCH isomers. In contrast to this fact, fairly high concentrations in Arctic biota including marine mammals and birds were detected with increasing levels.

Beta-HCH is acutely toxic to aquatic organisms and shows estrogenic effects in fish. Reduced fitness of offspring in birds as well as reduced retinol concentrations in polar bears is associated with beta-HCH and HCHs levels.

Expected effect of the final regulatory action in relation to the environment: To protect the environment and human health.

Date of entry into force of the final regulatory action: 26/03/2014

CHINA

Common name: Chlordecone

CAS number: 143-50-0

Chemical name: 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: The production, circulation, use, import and export of Chlordecone have all been banned in China.

Use or uses that remain allowed: None

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Since March 26th 2014, the production, circulation, use, import and export of Chlordecone have all been banned in China.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Chlordecone is readily absorbed into the body and accumulates following prolonged exposure. The pesticide is both acutely and chronically toxic, producing neurotoxicity, immunotoxicity, reproductive, musculoskeletal and liver toxicity at doses between 1 -10 mg/kg

bw/day in experimental animal studies. Liver cancer was induced in rats at a dose of 1 mg/kg body weight per day and in mice at a dose of 2.6 mg/kg bw/day, and reproductive effects are seen at similar dose levels. The International Agency for Research on Cancer has classified Chlordecone as a possible human carcinogen (IARC group 2B).

Expected effect of the final regulatory action in relation to human health: To protect the environment and human health.

Summary of known hazards and risks to the environment: Chlordecone is not expected to hydrolyse or biodegrade in aerobic aquatic environments or in soil; however, there is some evidence of degradation under anaerobic condition. Direct photodegradation is not significant. Based on all available data Chlordecone is considered to be highly persistent in the environment.

With BCF-values of up to 6,000 in algae, of up to 21,600 in invertebrates and of up to 60,200 in fish, and with documented examples of biomagnification, chlordecone is considered to have a high potential for bioaccumulation and biomagnification.

In summary, the available data on Chlordecone are not conclusive when it comes to long-range atmospheric transport in gaseous form. However, atmospheric transport of particle-bound substances and transport of sediment particles in ocean currents, as well as biotic transport, could also contribute to long-range environmental transport of Chlordecone. Coupled atmosphere-ocean transport also seems quite possible.

Expected effect of the final regulatory action in relation to the environment: To protect the environment and human health.

Date of entry into force of the final regulatory action: 26/03/2014

CHINA

Common name: Endosulfan

CAS number: 115-29-7

Chemical name: 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is severely restricted.

Use or uses prohibited by the final regulatory action: The production, circulation, use, import and export of endosulfan have all been banned in China except for the acceptable purpose or specific exemption.

Use or uses that remain allowed: The specific exemption: The production and use of endosulfan for control of cotton bollworm and tobacco budworm.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Since March 26th 2014, the production, circulation, use, import and export of endosulfan have all been banned in China except for the acceptable purpose or specific exemption.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: The toxicity and ecotoxicity of endosulfan is well documented. Endosulfan is highly toxic for humans and for most animal taxa, showing both acute and chronic effects at relatively low exposure levels. Acute lethal poisoning in humans and clear environmental effects on aquatic and terrestrial communities has been observed under standard use conditions when the risk mitigation measures have not been followed. Several countries have found that endosulfan poses unacceptable risks, or has caused unacceptable harm, to human health and the environment, and have banned or severely restricted it.

However, the information on its genotoxicity and its potential for endocrine disruption is not fully conclusive. Finally, the role of endosulfan metabolites other than endosulfan sulfate has received limited attention. Endosulfan lactone has the same chronic NOEC value as the parent endosulfan isomers.

The assessment of the POP characteristics of endosulfan, including endosulfan sulfate, confirms the concern regarding endosulfan and its main metabolite; it should be also considered that other metabolites, formed through both environmental and biota transformations, maintains the chemical structure and in some cases have significant toxicity.

Based on the inherent properties, and given the widespread occurrence in environmental compartments and biota in remote areas, together with the uncertainty associated with the insufficiently understood role of the metabolites which maintain the endosulfan chemical structure, it is concluded that endosulfan is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects, such that global action is warranted.

Expected effect of the final regulatory action in relation to human health: To protect the environment and human health.

Summary of known hazards and risks to the environment: Endosulfan aerobic transformation occurs via biologically mediated oxidation. The main metabolite formed is endosulfan sulfate. This compound is slowly degraded to the more polar metabolites endosulfan diol, endosulfan lactone, endosulfan ether. The combined median half-life DT50 measured in laboratory studies for and 13 endosulfan and endosulfan sulfate, was selected as a relevant parameter for quantifying the persistence, it ranges typically between 28 and 391 days. In the aquatic compartment, endosulfan is stable to photolysis; a rapid hydrolysis is only observed at high pH values, and it is non-readily biodegradable. In water/sediment systems, DT50 > 120 d was demonstrated. There is uncertainty on the degradation rate of endosulfan in the atmosphere, however it is expected that the half life exceeds the 2 days threshold. The bioconcentration potential of endosulfan in aquatic organisms is confirmed by experimental data. The validated bioconcentration factor (BCF) values range between 1000 and 3000 for fish, from 12 to 600 for aquatic invertebrates; and up to 3278 in algae. Thus, reported BCFs are below the criterion of 5,000; and the log Kow is measured at 4.7, which is below the criterion of 5. However, measured BAF and BMF in Arctic organisms show that endosulfan has an inherent high bioaccumulation and biomagnification potential. Additionally, endosulfan was detected in adipose tissue and blood of animals in the Arctic and the Antarctic. Endosulfan has also been detected in the blubber of minke whales and in the liver of northern fulmars. Therefore, there is sufficient evidence that endosulfan enters the food chain and that it bioaccumulates and has the potential to biomagnify in food webs.

The potential of endosulfan for long range transport (LRT) has been confirmed from three main information sources: the analysis of the endosulfan properties, the application of LRT models, and the review of existing monitoring data in remote areas.

LRT has been confirmed by the presence of endosulfan in air and biota from remote areas. Most studies measure *a*- and 13-endosulfan, and in some cases, endosulfan sulfate. Other endosulfan metabolites are only rarely quantified. The presence of endosulfan in remote areas, far away from intensive use areas, in particular, the Arctic and Antarctica has been confirmed. The potential for LRT seems to be mostly related to volatilization following by atmospheric transfer; deposition at high altitude mountain areas has been also observed.

Expected effect of the final regulatory action in relation to the environment: Similar concerns to those identified could be encountered in other countries where the pesticide is used.

Date of entry into force of the final regulatory action: 26/03/2014

CHINA

Common name: Hexabromocyclododecane and its main diastereoisomers

CAS number: 134237-50-6, 134237-51-7, 134237-52-8, 25637-99-4, 3194-55-6

Chemical name: 1,2,5,6,9,10-Hexabromocyclododecane

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is severely restricted.

Use or uses prohibited by the final regulatory action: The production, use, import and export of hexabromocyclododecane have all been banned in China except for the followings:

- The production, use, import and export of hexabromocyclododecane used for expanded polystyrene and extruded polystyrene in buildings (used mainly as flame retardant) will be allowed within the validity of specific exemption. The validity of the specific exemption will be terminated in 5 years after the amendment taking into effect in China (on December 25, 2021);
- The production, use, import and export of hexabromocyclododecane used for laboratory-scale research or as a reference standard will be allowed.

Use or uses that remain allowed:

- Expanded polystyrene and extruded polystyrene in buildings (used mainly as flame retardant);
- Used for laboratory-scale research or as a reference standard.

The final regulatory action was based on a risk or hazard evaluation: No

Summary of the final regulatory action: Since December 26th, 2016, the production, use, import and export of hexabromocyclododecane have all been banned in China except for the specific exemption.

Date of entry into force of the final regulatory action: 26/12/2016

CHINA

Common name: Lindane

CAS number: 58-89-9

Chemical name: Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1.alpha.,2.alpha.,3.beta.,4.alpha.,5.alpha.,6.beta.)-

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is severely restricted.

Use or uses prohibited by the final regulatory action: The production, circulation, use, import and export of Lindane have all been banned in China except for the acceptable purpose or specific exemption.

Use or uses that remain allowed: The production and use of Lindane for control of head lice and scabies as a human health pharmaceutical only.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Since March 26th 2014, the production, circulation, use, import and export of Lindane have all been banned in China except for the acceptable purpose or specific exemption.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Published risk assessment reports on Lindane indicate that Lindane is persistent, bioaccumulative and toxic. Lindane has been found in environmental samples all over the world as well as in human blood, human breast milk and human adipose tissue in different studied populations, especially in Arctic communities that depend on subsistence foods.

At high doses Lindane has been shown to be neurotoxic, hepatotoxic, immunotoxic and to have reproductive effects in laboratory animals. Human acute intoxication data show that Lindane can cause severe neurological effects, and chronic data suggest possible haematological effects. The International Agency for Research on Cancer (IARC) has classified Lindane as possibly carcinogenic to humans.

Expected effect of the final regulatory action in relation to human health: To protect the environment and human health.

Implementation of control measures is expected to reduce the risks from exposure of humans and the environment to Lindane, especially in the Arctic where Lindane accumulates easily in the wildlife, and where communities depend on subsistence foods.

Summary of known hazards and risks to the environment: Once released into the environment, lindane can partition into all environmental media. Hydrolysis and photolysis are not considered important degradation pathways and reported half-lives in air, water and soil are: 2.3 days, 3-300 days and up to 2 to 3 years, respectively. A half-life of 96 days in air has also been estimated.

Lindane can bio-accumulate easily in the food chain due to its high lipid solubility and can bioconcentrate rapidly in microorganisms, invertebrates, fish, birds and mammals. The bioconcentration factors in aquatic organisms under laboratory conditions ranged from approximately 10 up to 4220 under field conditions, the bioconcentration factors ranged from 10 up to 2600. Although lindane may bioconcentrate rapidly, biotransformation, depuration and elimination are also relatively rapid, once exposure is eliminated.

Many studies have reported lindane residues throughout North America, the Arctic, Southern Asia, the Western Pacific, and Antarctica. HCH isomers, including lindane, are the most abundant and persistent organochlorine contaminants in the Arctic where they have not been used, pointing at evidence of their long-range transport.

The hypothesis that isomerization of gamma HCH to alpha HCH in air emerged as a possible explanation for higher than expected alpha HCH/gamma HCH ratios in the Arctic. However no conclusive experimental evidence of isomerization taking place in air has been produced to date. Also, although there is evidence that bioisomerization of lindane can take place through biological degradation, it seems that this process may play an insignificant role in the overall degradation of gamma-HCH.

Lindane can be found in all environmental compartments, and levels in air, water, soil sediment, aquatic and terrestrial organisms and food have been measured worldwide. Humans are therefore being exposed to lindane as demonstrated by detectable levels in human blood, human adipose tissue and human breast milk in different studies in diverse countries. Exposure of children and pregnant women to lindane are of particular concern.

Hepatotoxic, immunotoxic, reproductive and developmental effects have been reported for lindane in laboratory animals. The US EPA has classified lindane in the category of "Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential". Lindane is highly toxic to aquatic organisms and moderately toxic to birds and mammals following acute exposures. Chronic effects to birds and mammals measured by reproduction studies show adverse effects at low levels such as reductions in egg production, growth and survival parameters in birds, and decreased body weight gain in mammals, with some effects indicative of endocrine disruption.

These findings and the evidence of its long range transport, as well as the fact that lindane is currently the object of local and global action initiatives, that also include thorough analysis and selection procedures, should be sufficient to warrant global action under the Stockholm Convention.

Date of entry into force of the final regulatory action: 26/03/2014

CHINA

Common name: Pentachlorobenzene

CAS number: 608-93-5

Chemical name: 1,2,3,4,5-pentachlorobenzene

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: The production, circulation, use, import and export of pentachlorobenzene have all been banned in China except for the acceptable purpose or specific exemption.

Use or uses that remain allowed: None

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Since March 26th 2014, the production, circulation, use, import and export of Pentachlorobenzene have all been banned in China except for the acceptable purpose or specific exemption.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Case reports of adverse effects in individuals, or epidemiological studies of populations exposed to PeCB have not been identified. The only risk phrase for pentachlorobenzene in the European ESIS database is R 22, harmful if swallowed. Lowest LD50 observed for acute exposure was 250 mg/kg bw. Repeat-dose mammalian toxicity tests result in evidence of hepatic, nephric, hematological, and developmental toxicity for this chemical. According to the American Hazardous Substances Data Bank pentachlorobenzene is not classifiable as to human carcinogenicity because there are no human data and no animal data available. PeCB is moderately toxic to humans. Pentachlorobenzene is very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Data on soil and sediment organisms are limited or lacking.

Expected effect of the final regulatory action in relation to human health: To protect the environment and human health.

Summary of known hazards and risks to the environment: Pentachlorobenzene is a chlorinated organic compound. According to available data, pentachlorobenzene should be considered as persistent given the considerable number of estimated and experimental half-lives in atmosphere, soils, sediments, and water. Persistence in the environment depends on the rate of photo-oxidation, the presence of oxygen and organic matter. Pentachlorobenzene meets the criterion on bioaccumulation. BCF values for pentachlorobenzene range from 1085 - 23 000 L/kg for fish, 833 -4 300 L/kg for mollusca, and 577 - 2258 L/kg for crustacean. Biomagnification may be expected due to the high logKow and the fact that biotransformation is insignificant. However, data on the biomagnification of pentachlorobenzene are lacking.

The available data support the potential for long range transport of pentachlorobenzene. The physical and chemical characteristics are within the range of the other POPs. Model estimations on the transport distance resulted in distances of 8 000 km, while estimates based on air measurements suggested 13 338 km. Monitoring data also indicate that PeCB is subject to long range transport. PeCB was detected in air and precipitation at various locations in the world, many of those far from its sources.

The small spatial variability across the Northern Hemisphere observed in some studies also indicate that PeCB has a very long atmospheric residence time, which allows it to become widely distributed in the global hemisphere.

Expected effect of the final regulatory action in relation to the environment: To protect the environment and human health.

Date of entry into force of the final regulatory action: 26/03/2017

CHINA

Common name: Perfluorooctanoic sulphonate (PFOS) and its salts and perfluorooctanesulfonyl fluoride (PFOSF)

CAS number:

- Potassium salt: 2795-39-3;
- Diethanolamine salt: 70225-14-8;
- Ammonium salt: 29081-56-9;
- Lithium salt: 29457-72-5;
- PFOSF: 307-35-7.

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is severely restricted.

Use or uses prohibited by the final regulatory action: The production, circulation, use, import and export of PFOS, its salts and PFOSF have all been banned in China except for the acceptable purpose or specific exemption.

Use or uses that remain allowed:

The specific exemption:

- Photo masks in the semiconductor and liquid crystal display (LCD) industries;
- Metal plating (hard metal plating);
- Metal plating (decorative plating);
- Electric and electronic parts for some color printers and color copy machines;
- Insecticides for control of red imported fire ants and termites;
- Chemically driven oil production.

The acceptable purpose:

- Photo-imaging;
- Photo-resist and anti-reflective coatings for semi-conductors;
- Etching agent for compound semi-conductors and ceramic filters;
- Aviation hydraulic fluids;
- Metal plating (hard metal plating) only in closed-loop systems;
- Certain medical device (such as ETFE layer, radio shielding ETFE production, in vitro diagnostic medical equipment and CCD filter);
- Fire-fighting foam.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Since March 26th 2014, the production, circulation, use, import and export of PFOS, its salts and PFOSF have all been banned in China except for the acceptable purpose or specific exemption.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: On the Swedish population, the levels of PFOS in whole blood was higher (27.2 ng/g, 3.0 - 67, n=10) in females with a high consumption of fish (Berglund, 2004) compared to samples from females in the general population (17.8 (ng/g, 4.6 -33, n= 26).

In humans, the highest concentrations of PFOS have been detected in workers at 3.M's manufacturing plant for per fluorochemicals in Decatur, US, where the levels in serum in the last year of measurement (2000) ranged between 0.06 -10.06 ug/g (n=263).

In a study of the general population, blood samples from families including three generations living in 12 European countries were tested for a large number of chemicals including PFOS and PFOSA. P FOS was present in 37 of 38 samples with concentrations from 0.36 to 35.3 ng/g blood, while PEOSA was present in 36 of 38 samples with concentrations from 0.15 to 2.04 ng/g blood.

Pooled serum samples from 3802 Australian residents, collected 2002-2003 and for analysed and region, gender divided in relation to age, gender and region, were analysed for perfluoroalkylsulfonates, and PFOSA. PFOS and PFOSA were quantified in all pooled serum samples with a total range of 12.7-29.5 ng/ml (mean 17.2 ng/ml) and 0.36-2.4 ng/ml (mean 0.81 ng/ml), respectively. For PFOS, a significant correlation between age and concentration was shown. No substantial difference was found in levels of per fluorinated compounds between the urban and rural regions. According to gender some differences were shown for some of the age groups.

Expected effect of the final regulatory action in relation to human health: To protect the environment and human health.

Summary of known hazards and risks to the environment: Studies on fish have shown that PFOS has bioconcentration properties. In studies on bluegill sunfish (*Lepomis macrochirus*) and rainbow trout (*Oncorhynchus mykiss*), bioconcentration factors (BCFs) have been estimated to be 2796 (whole fish) as well as 2900 (liver) and 3100 (plasma), respectively. The major route of uptake is believed to be through the gills.

Since PFOS is released from sewage treatment plants to the environment i.e. through water, one major route for PFOS into local food chains could be through fish. PFOS has shown a high oral uptake (95%) within 24 hours in the gastro-intestinal (GI) tract in studies on rats (OECD, 2002). Taken together, this could constitute the basis of the highly elevated levels that have been observed in top predators in food chains containing fish.

Expected effect of the final regulatory action in relation to the environment: To protect the environment and human health.

Date of entry into force of the final regulatory action: 26/03/2014

COLOMBIA

Common name: Dibromochloropropane (DBCP)

CAS number: 96-12-8

Chemical name: Propane, 1,2-dibromo-3-chloro-

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: All agricultural uses as pesticide to control pest (nematodos) on banana and plantain.

Prohibited import, formulation and sale in the national territory, and all uses of DBCP active ingredient compounds.

Use or uses that remain allowed: N.A.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: By request of the Ministry of Health, the Instituto Colombiano Agropecuario-ICA prohibits importation, formulation and sale in the national territory of all agricultural compounds containing dibromochloropropane (DBCP) active ingredient, considering the health hazards for humans and domestic animals, and the preservation of fauna and flora.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: IARC, Monographs, 20, p 83-96. 1979, found that 1,2-Dibromo-3-chloropropane has been tested by oral administration and inhalation in mice and rats. Following oral administration, squamous cell carcinomas of the stomach were produced in animals of each species and adenocarcinomas of the mammary gland in female rats.

Likewise, there is sufficient evidence that 1,2-dibromo-3-chloropropane is carcinogenic in mice and rats. For practical purposes, it is considered that 1,2-dibromo-3-chloropropane represents a carcinogenic risk to humans.

The widespread production of 1,2-dibromo-3-chloropropane and its use as a pesticide in the last two decades indicated that widespread human exposure occurs. Thus the IARC confirmed DBCP presence in soils and vegetables in experimental applications and observed higher sterility in groups of workers in this industry.

In the IARC evaluation, was found that after several treatments with repeated doses and single dose of 1,2-dibromo-3-chloropropane, mice developed symptoms of acute intoxication, mainly nervous system depression and weight loss. After repeated treatment, spermatogenesis effects were observed in males, as well as decreased number and viability of sperm; and zeal was inhibited in females. Severe atrophy and degeneration of the testicles were observed in rats, guinea pigs and rabbits. Testicular atrophy was also observed in rats during the long-term oral carcinogenicity study.

Other authors such as Kodama and Dunlap, 1956, quoted by IARC, 1979, stated that 1,2-dibromo-3-chloropropane induced skin and eye irritation in rabbits. Inhalation of concentrations greater than 600 mg/m³ (60 ppm) in the air caused skin, eyes, mucous membranes and respiratory tract irritation; liver degeneration, neurotoxicity and nephrotoxicity in rats (Torkelson et al. 1961).

On the other hand, US EPA found occupational exposure to 1,2-dibromo-3-chloropropane in production, formulation and manufacturing plants at levels that caused physiological changes in employees.

Ramirez and Ramirez. 1980; carried out epidemiological and laboratory studies in 72 sterile patients from a population of 630 banana workers, in procreative age, who applied the nematicide DBCP during variable times.

A positive correlation ($r = 0.99$) highly significant between the hours of application and the percentage of sterility of the workers was found. In turn, inverse relation ($p < 0.05$) between application times and sperm quantity was found. A higher number of hours of application of DBCP corresponds to a higher dose due to a greater exposure risk.

Meanwhile, Torkelson et al. (1961). Found that 1,2-Dibromo-3-chloropropane caused general symptoms of toxicity including poor growth, predisposition to secondary infection, and a specific histological alteration in the testicles of male rats receiving 50 repeated exposures of 7 hours at 50 ppm. This was the lowest concentration studied. The effect on the testicles resulting from exposure to higher concentrations was particularly severe, resulting in atrophy, degenerative changes, reduction of spermatogenesis, and development of abnormal spermatozoa.

Expected effect of the final regulatory action in relation to human health: Reduction and elimination of risk for the human health for the use of active ingredient compound Propane, 1,2-dibromo-3-chloro-

Summary of known hazards and risks to the environment: When the Colombian authorities adopted the banning action, in 1982, for DBCP there was no data or information on the risks or hazards to the environment. Due to a lack of supporting studies, available information was insufficient with respect to the fate and behavior of the substance in the environment and its ecotoxicological properties.

However, although ecotoxic data were poor at local level, it was reported by the Colombian authorities that the United States Environmental Protection Agency (EPA) issued on 22 September 1977 an Order and advised registration suspension of pesticide products containing 1,2-dibromo-3-chloropropane, as these represented an "imminent danger" to humans or the environment.

Also IARC, Monographs, 20, p 83-96. 1979, explained that the use of DBCP was applied to different agricultural soils in California by injection, flooding and spraying. The chemical was still present 40 weeks after application; and distribution in soils was proportional to the size of the soil particles, with the highest concentration found in sandy soils and the lowest in clay soils (Hodges, 1972).

In field experiments, DBCP was detected in soil at levels in the average range of 0.008-1.64 mg /kg from 1 day to 16 weeks after application at a rate of 13, 75 kg /ha (Newsome et al., 1977).

In the past, the release of DBCP into the environment was mainly due to its uses as fumigant and nematocide. In 1977, 831,000 pounds of DBCP were used in California alone, mainly in grapes and tomatoes. In 1974, US farmers Applied 9.8 million pounds of DBCP in crops. All end-use product registrations were canceled in 1979, except for the use as soil fumigant against pineapple nematodes in Hawaii.

According to the EPA, what happens to DBCP when is released into the environment? DBCP released into the soil will probably evaporate or leach into groundwaters. The microbial decomposition is slowly in comparison. Once in the atmosphere, DBCP is expected to break down fairly quickly by sunlight. DBCP is not likely to accumulate in aquatic life.

In addition, due to the lack of information, there was no evaluation in Colombia for 1,2-dibromo-3-chloropropane route and degradation rate in soils, or contamination potential of surface and groundwaters, and there is also a large data gap for a study on the effects of DBCP on wastewaters treatment plants.

Expected effect of the final regulatory action in relation to the environment: Reduction and elimination of risk for the environment and human health for the use of active ingredient compound Propane, 1,2-dibromo-3-chloro-

Date of entry into force of the final regulatory action: 08/02/1982

COLOMBIA

Common name: Mirex

CAS number: 2385-85-5

Chemical name: Dodecachloropentacycle[5.3.0.02.6.03.9.04.8]decane

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: The Ministry of Health considers that organochlorine pesticides pose serious risks to human, animal and environmental health by virtue of their wide spectrum, prolonged residual action and high potency of accumulation in mammalian and man-made fats, Its neurotoxic potential for man and vertebrates, took the constitutional decision to prohibit the importation, production, marketing, use and application of DODECACLORO or MIREX products, among others. The decision was also taken because organochlorine insecticides were detected in human and bovine milk in cases higher than those which could represent an admissible risk to human health.

Under the decision, all Licenses for sale of products containing DODECACOLORO or MIREX were canceled in Colombia.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: According to the results of Vargas and Vallejo, (1990) in all samples of human or cow milk analyzed total DDT was found in high concentrations. In some samples, significant amounts of (HCH) and other insecticides not included in the study were also found. They also refer that organochlorines are one of the types of insecticide currently used

In Colombia and are considered dangerous products due to their low biodegradability and their cumulative capacity in food fat and human adipose tissue. This accumulation also occurs in animal or human milk. Annex III.

On the other hand, Albert (1981), in his study called Organochlorine Pesticide Residues in breast milk and health risks, warns of the health effects of humans on the carcinogenic properties shown to have cyclodiene pesticides as Dieldrin, mirex, endrin, chlordane and heptachlor epoxide in experimental animals. It also mentions the restrictive measures taken in the United States of America and in other developed countries and deficiencies in standards and studies in the countries of Latin America, where these products the production, importation and use of these pesticides continue without limitations. Annex V.

The IARC, Volume 5 of 1974, pp. 203-210, in its evaluation of the risks of organochlorine pesticides, including MIREX, mentions that the results of a preliminary oral study in mice resulted in a higher incidence of Hepatomas in males and females. Studies in mice found that with different treatments, animals of both sexes died at 70 weeks and that females were more susceptible than males.

The IARC also refers to tolerances for mirex residues in foodstuffs (animal fat, goats, pigs, horses, poultry and sheep, eggs, fat, all raw agricultural products, fat Of animal milk and animal fat) established by EPA in 1969. This has adverse effects on the health of consumers and workers.

Finally, the IARC evaluation did not have epidemiological studies in human.

[http://monographs.iarc.fr/ENG/Mono ra hs/v011-42/](http://monographs.iarc.fr/ENG/Mono%20graphs/v011-42/)

Expected effect of the final regulatory action in relation to human health: Reduction and elimination of risk to the environment and human health by the use of compounds with active ingredient Dodecachlor (Mirex).

Summary of known hazards and risks to the environment: The same IARC, 1974, determined that organochlorine compounds including Mirex are generally very sparingly soluble in water; On the other hand, they are very soluble in lipids. For this reason, they tend to be stored in animal tissues at levels that depend on the ingestion and the metabolic peculiarities of the species in question. Some aquatic organisms may increase the levels of Organochlorine compounds more than 10,000 times that in the water in which they live.

An additional property associated with its low solubility in water is a tendency to adsorb to particulate material in suspension in water, bottom sediment and organic matter in the soil.

[http://monographs.iarc.fr/ENG/Monoqraphs/v011-42/](http://monographs.iarc.fr/ENG/Monographs/v011-42/)

Expected effect of the final regulatory action in relation to the environment: Reduction and elimination of risk to the environment and human health by the use of compounds with active ingredient Dodecachlor (Mirex).

Date of entry into force of the final regulatory action: 09/12/1993 The date of entry into force of all provisions of Resolution 10255 was December 9, 1993. Date on which it was published. Since, as of that date, all uses of plant protection products containing DODECACOLORO or MIREX were banned.

The Colombian Agricultural Institute's measures have been in force since March 3 1994. Date on which the DODECACOLORO or MIREX Licenses for Sale were canceled.

EUROPEAN UNION

Common name: Acetochlor

CAS number: 34256-82-1

Chemical name: 2-chloro-N-ethoxym ethyl-6'-ehtylacet-o-toluidide

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: All applications as a plant protection product.

Use or uses that remain allowed: Not relevant.

The final regulatory action was based on a risk or hazard evaluation: No

Summary of the final regulatory action: It is prohibited to place on the market or use plant protection products containing acetochlor in the European Union. Acetochlor is not approved for placing on the market pursuant to Regulation (EC) No 1107/2009 concerning the placing of the plant protection products on the market (which replaces Directive 91/414/EEC).

All authorisations for plant protection products containing acetochlor had to be withdrawn by the Member States by 23 June 2012 and all uses of plant protection products containing acetochlor are prohibited as of 23 June 2013 at the latest.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: It was concluded that it was not demonstrated that it may be expected that plant protection products containing acetochlor satisfy in general the requirements laid down in Article 5 (1) (a) and (b) of Directive 91/414/EEC.

According to the risk assessment related to human health the following concerns were identified:

- The potential human exposure is above 100% of the ADI when predicted concentrations of the ground water metabolites t-oxanilic acid, t-sulfinylacetic acid, t-sulfonic acid and s-sulfonic acid that have been concluded as relevant metabolites are taken into account;
- There is a potential human exposure to metabolite t-norchloro acetochlor when surface water is abstracted for drinking water, which has been concluded as relevant from a toxicological hazard assessment perspective. In addition, the toxicological data for t-norchloro acetochlor indicate that it is genotoxic;
- A high potential for groundwater contamination has been identified over significant areas of the EU by the metabolites t-oxanilic acid, t-sulfinylacetic acid, t-sulfonic acid and s-sulfonic acid, which have been concluded as relevant metabolites;
- No valid method is available to quantify residues in food of plant origin.

Expected effect of the final regulatory action in relation to human health: Reduction of risk from the use of plant protection products containing acetochlor.

Summary of known hazards and risks to the environment: It was concluded that it was not demonstrated that it may be expected that plant protection products containing acetochlor satisfy in general the requirements laid down in Article 5 (1) (a) and (b) of Directive 91/414/EEC.

Pursuant the risk assessment related to the environment the following concerns were identified:

- Acetochlor is very toxic to all groups of aquatic organisms;
- A high acute risk to birds from uptake of contaminated drinking water was indicated for the post emergence applications;
- There is a high risk to non-target terrestrial plants. The risk assessment suggests that an in-field no spray buffer zone of 5m is required to protect non target plants in the off-field area;
- A high long term risk for herbivorous birds has been identified.

Expected effect of the final regulatory action in relation to the environment: Reduction of risk from the use of plant protection products containing acetochlor.

Date of entry into force of the final regulatory action: 23/06/2013

GUYANA

Common name: Actinolite asbestos

CAS number: 77536-66-4

Chemical name: Actinolite; varieties of asbestiform hydrated silicates, with complex crystal structures

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Asbestos -Amosite, Anthophyllite, Actinolite, Tremolite (amphibole forms of asbestos).

The reasons for the final regulatory action were relevant to: Human health.

Summary of known hazards and risks to human health: Inhalation of asbestos dust can cause fibrosis of the lung (asbestosis), changes in one or both surfaces of the pleura, bronchial carcinoma (lung cancer), mesothelioma of the pleura and peritoneum, and possibly cancers of other sites (IPCS, 1986).

Asbestosis was the first asbestos-related lung disease to be recognised. It is defined as diffuse interstitial fibrosis of the lungs resulting from exposure to asbestos dust. Scarring of the lungs reduces their elasticity and function resulting in breathlessness. It can appear and progress many years after the termination of exposure. Under recent exposure conditions, asbestosis will rarely be detectable, even in its early stages, in less than 20 years from first exposure (IPCS, 1986). There is no substantial evidence that asbestos fibre type influences the frequency or severity of pulmonary fibrosis. However the risk may be higher in the textile industry than in mining or milling, or in the manufacture of friction products (McDonald, 1984 cited by IPCS, 1986).

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Date of entry into force of the final regulatory action: 02/04/2017

GUYANA

Common name: Amosite asbestos

CAS number: 12172-73-5

Chemical name: Amosite; varieties of asbestiform hydrated silicates, with complex crystal structures

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Asbestos -Amosite, Anthophyllite, Actinolite, Tremolite (amphibole forms of asbestos).

The reasons for the final regulatory action were relevant to: Human health.

Summary of known hazards and risks to human health: Inhalation of asbestos dust can cause fibrosis of the lung (asbestosis), changes in one or both surfaces of the pleura, bronchial carcinoma (lung cancer), mesothelioma of the pleura and peritoneum, and possibly cancers of other sites (IPCS, 1986).

Asbestosis was the first asbestos-related lung disease to be recognised. It is defined as diffuse interstitial fibrosis of the lungs resulting from exposure to asbestos dust. Scarring of the lungs reduces their elasticity and function resulting in breathlessness. It can appear and progress many years after the termination of exposure. Under recent exposure conditions, asbestosis will rarely be detectable, even in its early stages, in less than 20 years from first exposure (IPCS, 1986). There is no substantial evidence that asbestos fibre type influences the frequency or severity of pulmonary fibrosis. However the risk may be higher in the textile industry than in mining or milling, or in the manufacture of friction products (McDonald, 1984 cited by IPCS, 1986).

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Date of entry into force of the final regulatory action: 02/04/2017

GUYANA

Common name: Anthophyllite

CAS number: 77536-67-5

Chemical name: Anthophyllite; varieties of asbestiform hydrated silicates, with complex crystal structures

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Asbestos -Amosite, Anthophyllite, Actinolite, Tremolite (amphibole forms of asbestos).

The reasons for the final regulatory action were relevant to: Human health.

Summary of known hazards and risks to human health: Inhalation of asbestos dust can cause fibrosis of the lung (asbestosis), changes in one or both surfaces of the pleura, bronchial carcinoma (lung cancer), mesothelioma of the pleura and peritoneum, and possibly cancers of other sites (IPCS, 1986).

Asbestosis was the first asbestos-related lung disease to be recognised. It is defined as diffuse interstitial fibrosis of the lungs resulting from exposure to asbestos dust. Scarring of the lungs reduces their elasticity and function resulting in breathlessness. It can appear and progress many years after the termination of exposure. Under recent exposure conditions, asbestosis will rarely be detectable, even in its early stages, in less than 20 years from first exposure (IPCS, 1986). There is no substantial evidence that asbestos fibre type influences the frequency or severity of pulmonary fibrosis. However the risk may be higher in the textile industry than in mining or milling, or in the manufacture of friction products (McDonald, 1984 cited by IPCS, 1986).

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Crocidolite

CAS number: 12001-28-4

Chemical name: Crocidolite

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Asbestos -crocidolite.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Inhalation of asbestos dust including crocidolite can cause fibrosis of the lung (asbestosis), changes in one or both surfaces of the pleura, bronchial carcinoma (lung cancer), mesothelioma of the pleura and peritoneum, and possibly cancers of other sites (IPCS, 1986).

Fibrosis in many animal species, and bronchial and pleural carcinomas in the rat, have been observed following inhalation of amphibole asbestos. In these studies there were no consistent increases in tumour incidence at other sites, and there is no convincing evidence that ingested asbestos is carcinogenic in animals (IPCS, 1986). Epidemiological studies, mainly on occupational groups, have established that all types of asbestos fibres are associated with diffuse pulmonary fibrosis (asbestosis), bronchial carcinoma (lung cancer), and primary malignant tumours of the pleura and peritoneum (mesothelioma). That asbestos causes cancers at other sites is less well established. Cigarette smoking increases the asbestosis mortality and the risk of lung cancer in persons exposed to asbestos but not the risk of mesothelioma (IPCS, 1986).

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Summary of known hazards and risks to the environment: Fate Crocidolite fibres are relatively stable and are transported via air and water over great distances.

Expected effect of the final regulatory action in relation to the environment: Reduce exposure to aquatic life, avian life and other animals.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Tremolite

CAS number: 77536-68-6

Chemical name: Asbestos, tremolite; varieties of asbestiform hydrated silicates, with complex crystal structures

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Asbestos -Amosite, Anthophyllite, Actinolite, Tremolite (amphibole forms of asbestos).

The reasons for the final regulatory action were relevant to: Human health.

Summary of known hazards and risks to human health: Inhalation of asbestos dust can cause fibrosis of the lung (asbestosis), changes in one or both surfaces of the pleura, bronchial carcinoma (lung cancer), mesothelioma of the pleura and peritoneum, and possibly cancers of other sites (IPCS, 1986).

Asbestosis was the first asbestos-related lung disease to be recognised. It is defined as diffuse interstitial fibrosis of the lungs resulting from exposure to asbestos dust. Scarring of the lungs reduces their elasticity and function resulting in breathlessness. It can appear and progress many years after the termination of exposure. Under recent exposure conditions, asbestosis will rarely be detectable, even in its early stages, in less than 20 years from first exposure (IPCS, 1986). There is no substantial evidence that asbestos fibre type influences the frequency or severity of pulmonary fibrosis. However the risk may be higher in the textile industry than in mining or milling, or in the manufacture of friction products (McDonald, 1984 cited by IPCS, 1986).

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Octabromodiphenyl ether commercial mixtures, typically containing hexabromodiphenylether, heptabromodiphenyl ether, octabromodiphenyl ether, nonabromodiphenyl ether and decabromodiphenyl ether

CAS number: 1163-19-5, 32536-52-0, 36483-60-0, 63936-56-1, 68928-80-3

Chemical name: Octabromodiphenyl ether commercial mixtures typically containing: hexaBDE: hexabromodiphenyl ether (benzene, 1,1,1'-oxybis-, hexabromo derivative) heptaBDE: heptabromodiphenyl ether (benzene, 1,1'-oxybis-, heptabromo derivative); octaBDE: octabromodiphenyl ether (benzene, 1,1,1'-oxybis-, octabromo derivative); nonaBDE: nonabromodiphenyl ether (benzene, 1,1,1'-oxybis-, nonabromo derivative); decaBDE: decabromodiphenyl ether (bis(pentabromophenyl) ether (benzene, 1,1,1'-oxybis[2,3,4,5,6-pentabromo-])

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: No known use of the chemical in Guyana prior to the final regulatory action.

Use or uses that remain allowed: All formulation or preparation and all use prohibited by the final regulatory action.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited Pesticides and Toxic Chemicals) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits the importation, sale and use of Octabromodiphenyl ether commercial mixtures, typically containing hexabromodiphenyl ether, heptabromodiphenyl ether, octabromodiphenyl ether, nonabromodiphenyl ether and decabromodiphenyl ether or any substance in any form containing Octabromodiphenyl ether commercial mixtures, typically containing hexabromodiphenyl ether, heptabromodiphenyl ether, octabromodiphenyl ether, nonabromodiphenyl ether and decabromodiphenyl ether.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: The commercial octaBDE product (c-OctaBDE) classified as a reproductive toxicant, due to its effects on human health, with the risk phrases "may cause harm to unborn child", and "possible risk of impaired fertility". Studies and assessments provided evidence that c-OctaBDE may cause adverse effects, such as effects on reproductive organs and effects on development of the foetus.

Effects of repeated exposure to c-OctaBDE consistently indicated that the liver was the key target organ, and liver effects had been observed in animal studies.

It was assumed that in humans, components of c-OctaBDE might bioaccumulate in adipose tissue. Alterations in thyroid homeostasis were reported with organochlorine compounds for many species, including humans. A thyroid hormone like affinity for the serum transport protein transthyretin was shown for hydroxylated PCBs.

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Summary of known hazards and risks to the environment: Congeners of c-OctaBDE seem to resist degradation and thus have the potential to persist in the environment for a long time. They have potential for bioaccumulation and in addition there was monitoring evidence of biomagnification. TetraBDE, pentaBDE and hexaBDE congeners met the criteria for persistence and bioaccumulation, as defined by the Persistence and Bioaccumulation Regulations of CEPA 1999. Further, some PBDE congeners (tetra-, penta-, hexa-, hepta-) have been identified as Persistent Organic Pollutants (POPs) under the Stockholm Convention and the UNECE POP-protocol and as such are recognized as environmentally and biologically persistent substances that may undergo long-range environmental transport (POPRC, 2007). With regards to the biological persistence of c-OctaBDE, HexaBDE is demonstrated to show a significant potential for bioconcentration and biomagnification; heptaBDE on the other hand biomagnifies through the food web. Available data suggests that aquatic species bioconcentrate and bioaccumulate c-OctaBDE from their environment (POPRC, 2007).

Expected effect of the final regulatory action in relation to the environment: Reduce the exposure to aquatic organism and other animals.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Pentabromodiphenyl ether, Pentabromodiphenyl ether commercial mixtures

CAS number: 49690-94-0, 32534-81-9, 40088-47-9, 36483-60-0, 68928-80-3

Chemical name: 2,4,-dibromo-1-(2,4-dibromophenoxy) benzene or; 2,2',4,4'-tetrabromodiphenyl ether; 2,4,5-tribromo-1-(2,4-dibromophenoxy) benzene or; 2,2',4,4',5-pentabromodiphenyl ether

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: No known use of the chemical in Guyana prior to the final regulatory action.

Use or uses that remain allowed: All formulation or preparation and all use prohibited by the final regulatory action.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Pentabromodiphenyl ether, Pentabromodiphenyl ether commercial mixtures or any substance in any form containing Pentabromodiphenyl ether Pentabromodiphenyl ether commercial mixtures.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: The risks to workers were that the estimated body burden of PentaBDE arising from occupational exposure. Unacceptable risks to human were identified including human exposed through environment and infants exposed through breast milk. Concerns to aquatic and terrestrial environment were also identified from production and/or use of polyurethane foams. This was considered alarming, especially for populations that are dependent on fish for their diet (e.g. indigenous people).

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Summary of known hazards and risks to the environment: PentaBDE is an environmental contaminant that have long-range atmospheric transport, environmental persistent and bioaccumulate in various species. C-

PentaBDE is biologically and environmentally persistent and is recognized, as a global POP under the Stockholm Convention (POPRC, 2006, POPRC, 2007).

Expected effect of the final regulatory action in relation to the environment: Reduce exposure to Human, Aquatic and other animals.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Perfluorooctane sulfonic acid, perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyls

CAS number: 1691-99-2, 1763-23-1, 24448-09-7, 251099-16-8, 2795-39-3, 29081-56-9, 29457-72-5, 307-35-7, 31506-32-8, 4151-50-2, 56773-42-3, 70225-14-8, 45298-90-6

Chemical name: 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-1-octanesulfonic acid, perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyls

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: No known use of the chemical in Guyana prior to the final regulatory action.

Use or uses that remain allowed: All formulation or preparation and all use prohibited by the final regulatory action.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited Pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Perfluorooctane sulfonic acid, perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyls or any substance in any form containing Perfluorooctane sulfonic acid, perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyls.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: PFOS and PFOS related substances pose potential risk to human health. In human blood samples, PFOS has been detected in the serum of occupational and general populations. PFOS bioaccumulates and binds preferentially to proteins in the plasma. Hazard Assessment concluded that PFOS is persistent, bioaccumulative and toxic in mammals. It has been detected in the serum of occupational and general populations. There is a statistically significant association between PFOS exposure and bladder cancer and there appears to be an increased risk of episodes of neoplasm of the male reproductive system, the overall category of cancers and benign growths, and neoplasms of the gastrointestinal tract.

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Summary of known hazards and risks to the environment: PFOS and PFOS related substances pose potential risk to the environment. PFOS is persistent in the environment. It does not hydrolyse, photolyse or volatilise from the aquatic environment, PFOS has been detected in fish, and in wildlife worldwide. The oral assimilation in fish and mammals and the low elimination rate, it can be concluded that PFOS poses similar environmental concerns for bioaccumulation to substances that are very bioaccumulative.

Expected effect of the final regulatory action in relation to the environment: Reduce the exposure to aquatic organism and other animals.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Polybrominated biphenyls (PBBs) **CAS number:** 13654-09-6, 27858-07-7, 36355-01-8

Chemical name: Hexabromobiphenyl, octabromobiphenyl, decabromobiphenyl

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: No known use of the chemical in Guyana prior to the final regulatory action.

Use or uses that remain allowed: All formulations or preparations and all use prohibited by the final regulatory action.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Polybrominated Biphenyls (PBBs).

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Occupational/Use: blood levels up to 85 µg/l have been detected in employees.

PBBs accumulate in food chains, evidence exists of chronic toxicity to various species, and because they are embryotoxic and teratogenic. Furthermore the use has been discontinued because of the hazard to human health discovered after accidental use in Michigan in 1973.

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Summary of known hazards and risks to the environment: Persistent in water and soil, degrades in ultraviolet light.

PBBs are readily bioconcentrated in fish (magnification factor: 10,000).

Expected effect of the final regulatory action in relation to the environment: Reduce exposure to aquatic life, avian life and other animals.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Polychlorinated biphenyls (PCBs)

CAS number: 1336-36-3

Chemical name: Polychlorinated biphenyls

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: No known use of the chemical in Guyana prior to the final regulatory action.

Use or uses that remain allowed: All formulations or preparations and all use prohibited by the final regulatory action.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Polychlorinated biphenyls (PCBs).

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Occupational/Use: inhalation is main route of absorption. Occupational Exposure Limit: 0.5 mg/m³ (8 h TWA). In the fatty tissue of occupationally exposed men concentrations up to 700 mg/kg have been found.

Persistence in the environment, bioaccumulation in the human food chain, extremely toxic impurities, formation of extremely toxic substances on thermolysis, harmful to human health, chronic toxicity, contamination of the environment.

Human studies have shown that PCB exposure leads to skin abnormalities (acne- form), although there is strong evidence that this occurs only in combination with polychlorinated dibenzofurans (PCDFs). Accidental poisoning suggests that effects may be retardation of foetal growth and alteration on fetal growth retardation and alteration of calcium metabolism related to hormonal dysfunction. There is strong evidence from human mortality studies that PCBs produce cancer of liver, biliary tract and gall bladder.

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Summary of known hazards and risks to the environment: Fate: PCBs with five or more chlorines are quite resistant to biodegradation, but photolysis may result in some breakdown of highly-chlorinated PCBs. The half-life in soil is 5 years.

Effects: the bioconcentration factor in fish and crustacea is 270,000. LD50 fish: 3-3000 /µg/1, crustacea: 10-2400 /µg/1 (Aroclor 1254 very sensitive). Permissible concentration in water to protect aquatic life: 30 /µg/1. Persistence in the environment, bioaccumulation in the human food chain, extremely toxic impurities, formation of extremely toxic substances on thermolysis, harmful to human health, chronic toxicity, contamination of the environment.

Expected effect of the final regulatory action in relation to the environment: Reduce exposure to aquatic life, avian life and other animals.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Tetraethyl lead

CAS number: 78-00-2

Chemical name: Plumbane, tetraethyl-

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Tetraethyl lead and Tetramethyl lead.

The reasons for the final regulatory action were relevant to: Human health.

Summary of known hazards and risks to human health: One significant source of human exposure to lead has been through inorganic lead compounds emitted from the combustion process as a direct result of the use of alkyl lead as an additive in gasoline. Lead emitted from the exhaust of vehicles is primarily in the form of inorganic particles (e.g. PbBrCl), with only small amounts (less than 10% of total emissions) in the form of organolead vapours (Royal Society of Canada, September 1986). The discussion on toxicological properties therefore focuses on the risks to human health associated with exposure to lead, tetraethyl lead and tetra methyl lead.

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Tetramethyl lead

CAS number: 75-74-1

Chemical name: Plumbane, tetramethyl-

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Tetraethyl lead and Tetramethyl lead.

The reasons for the final regulatory action were relevant to: Human health.

Summary of known hazards and risks to human health: One significant source of human exposure to lead has been through inorganic lead compounds emitted from the combustion process as a direct result of the use of alkyl lead as an additive in gasoline. Lead emitted from the exhaust of vehicles is primarily in the form of inorganic particles (e.g. PbBrCl), with only small amounts (less than 10% of total emissions) in the form of organolead vapours (Royal Society of Canada, September 1986). The discussion on toxicological properties therefore focuses on the risks to human health associated with exposure to lead, tetraethyl lead and tetra methyl lead.

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Date of entry into force of the final regulatory action: 02/04/2015

GUYANA

Common name: Tris(2,3 dibromopropyl)phosphate

CAS number: 126-72-7

Chemical name: 2,3-Dibromo-1-propanolphosphate (3:1); 1-Propanol, 2,3-dibromo-, phosphate (3:1)

Final regulatory action has been taken for the category: Industrial

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Not applicable.

Use or uses that remain allowed: Not applicable.

The final regulatory action was based on a risk or hazard evaluation: Yes

Summary of the final regulatory action: Pesticides and Toxic Chemicals Control (Prohibited pesticides) Order No.4 of 2015 made under the Pesticides and Toxic Chemicals Control Act 2000 (No 13 of 2000) Prohibits importation, sale and use of Tris (2,3-dibromopropyl) phosphate.

The reasons for the final regulatory action were relevant to: Human health and environment.

Summary of known hazards and risks to human health: Tris(2,3-dibromopropyl)phosphate is considered a possible carcinogen to humans.

Absorption via the skin, the main route of entry into the human body, must therefore be prevented.

Expected effect of the final regulatory action in relation to human health: The possibility of risks and exposure to this chemical by humans decreased.

Summary of known hazards and risks to the environment: The limited information available suggests that Tris is relatively persistent in the environment. Hydrolysis, oxidation and photo-degradation are not likely to be significant fate processes. Slow biodegradation in raw sewage may occur.

Expected effect of the final regulatory action in relation to the environment: Reduce exposure to aquatic life, avian life and other animals.

Date of entry into force of the final regulatory action: 02/04/2015

PERU

Common name: Chlordecone

CAS number: 143-50-0

Chemical name: 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-

Final regulatory action has been taken for the category: Pesticide

Final regulatory action: The chemical is banned.

Use or uses prohibited by the final regulatory action: Pesticide not registered in Peru.

Use or uses that remain allowed: None, pesticide not registered in Peru.

The final regulatory action was based on a risk or hazard evaluation: No

Summary of the final regulatory action: Prohibited: register, import, local formulation, distribution, marketing and use of agricultural pesticides commercial formulations with Chlordecone, including possible derivations and compounds, and technical material.

The reasons for the final regulatory action were relevant to: Human health.

Date of entry into force of the final regulatory action: 10/02/2017

Synopsis of notifications of final regulatory action received since the last PIC Circular

PART B**NOTIFICATIONS OF FINAL REGULATORY ACTION THAT HAVE BEEN VERIFIED AS NOT CONTAINING ALL THE INFORMATION REQUIRED IN ANNEX I TO THE CONVENTION**

| Chemical name | CAS No. | Category | Country | Region | Annex III |
|-----------------|------------|-----------|----------|--------|-----------|
| Alachlor | 15972-60-8 | Pesticide | Pakistan | Asia | Yes |
| Aldicarb | 116-06-3 | Pesticide | Pakistan | Asia | Yes |
| Azinphos-methyl | 86-50-0 | Pesticide | Pakistan | Asia | Yes |
| Endosulfan | 115-29-7 | Pesticide | Pakistan | Asia | Yes |

PART C**NOTIFICATIONS OF FINAL REGULATORY ACTION STILL UNDER VERIFICATION**

| Chemical name | CAS No. | Category | Country | Region | Annex III |
|---|--|-----------|----------------------------|--------|-----------|
| Azinphos-ethyl | 2642-71-9 | Pesticide | Iran (Islamic Republic of) | Asia | No |
| Azinphos-methyl | 86-50-0 | Pesticide | Iran (Islamic Republic of) | Asia | Yes |
| Nonylphenol, nonylphenol ethoxylates | 26027-38-3 68412-53-3 68412-54-4 25154-52-3 84852-15-3 104-40-5 26543-97-5 30784-30-6 17404-66-9 52427-13-1 104-35-8 20427-84-3 26027-38-3 27177-05-5 27177-08-8 286879-13-2 27986-36-3 9016-45-9 27176-93-8 37340-60-6 51938-25-1 68412-53-3 11066-49-2 | Pesticide | South Africa | Africa | No |

APPENDIX II

PROPOSALS FOR INCLUSION OF SEVERELY HAZARDOUS PESTICIDE FORMULATIONS IN THE PIC PROCEDURE

PART A

SUMMARY OF EACH PROPOSAL FOR INCLUSION OF A SEVERELY HAZARDOUS PESTICIDE FORMULATION THAT HAS BEEN VERIFIED TO CONTAIN ALL INFORMATION REQUESTED BY PART I OF ANNEX IV TO THE CONVENTION

GEORGIA

Name of the formulation: Karate

Type of formulation (for example EC, WP, DP, GR, TB): 5 EC

Trade name and name of producer, if available: Karate, Syngenta Crop Protection AG Basel Switzerland

Name of the active ingredient or ingredients in the formulation: lambda-cyhalothrin

Relative amount of each active ingredient in the formulation: 50 g/L (% concentration)

Attach copy of the label(s), if available (or describe the key aspects of the label: language, etc.):

The label is attached.

Common and recognized patterns of use of the formulation within the country:

- *The formulation is registered / permitted for use in the country?*

Registered and permitted for use since 22.12.98, RE-preregistration in 2004, 2009, 2014, Reg.# 048/04/09/14, permitted for use until 2019.

- *What uses are permitted?* Agrarian uses as follows:

Wheat, barley 0.15-0.2 l/ha, maize 0.2 l/ha, soy bean 0.4 l/ha, apple 0.4-0.8 l/ha, stone and pome fruit (nursery) 0.3-0.4 l/ha, potato 0.1-0.3 l/ha, cabbage, tomato 0.1 l/ha, raspberry 0.4 l/ha, strawberry 0.5 l/ha, currant 0.3-0.4 l/ha, non-bearing orchard, city green plantation wind and forest shelter 0.2-0.4 l/ha, grape 0.3-0.4 l/ha, non-agricultural lands 0.1-0.4 l/ha, drug plants 0.1-0.4 l/ha, pine 2.5-5 ml/m², not loaded store-houses, grain processing households 0.4 ml/m², store-houses grain processing households areas 0.8 ml/m².

The regulatory authority is aware that some households use Karate for ‘domestic use’ on animals (cattle) but no products with Lambda cyhalothrin are currently registered for veterinary use.

- *Are there any handling or applicator restrictions specified as a condition of registration?*

NO

- *Information on the extent of use of the formulation, such as the number of registrations or production or sales quantity:*

Georgia does not produce pesticides. 3000 t pesticides imports are recorded annually, but records are not kept for individual products.

Products registered in Georgia containing Lambda cyhalothrin include: Karate, Karate Zeon, Valsamba, Kaiso, Grand 5, Kung-FU, Efdal lamothrin, Tecvando capsula, Cavanha.

The exporting countries/countries of origin is Syngenta Crop Protection AG Basel Switzerland; label information: Contact office Syngenta Crop Protection AG Basel Switzerland, P.O. Box 1777.

A state registration and control system was established in the country after 1998 when the law of Georgia on “pesticides and agrochemicals” was enacted. The Ministry of Agriculture and The Ministry of Environment Protection and Natural Resources, Ministry of health are involved in this system.

Pesticides with the active ingredient Lambda cyhalothrin are widely used in Georgia. Of the 497 farmers that identified products used most, 29% said they used Lambda cyhalothrin (compared to the next most common product, dimethoate, used by 12% of farmers).

Karate is used against the main target pests in agricultural crops. A survey in 2016 indicated that its primary uses in the target area of Kvemo Kartli are against Colorado beetle (*Leptinotarsa decemlineata*) in potato crops; against mole crickets (*Gryllotalpa* spp.) and non-registered use against ecto-parasites on cattle. The common crops in which it is used include potato, tomato, orchard fruits. Details of incidents are provided in the attached Annex II.

- ***Other information on how the formulation is commonly/typically used in the country:***

Please see Part B and Annex III for details.

- ***A clear description of incidents(s) related to the problem, including adverse effects and the way in which the formulation was used. Other report formats which may exist at the national level may also be used, provided they contain comparable information:***

The survey in 2016 collected details of 8 incidents relating to Karate 5 EC and 1 incident relating to Karate Zeon 5 CS. In all cases the active ingredient is Lambda cyhalothrin.

The incidents relating to Karate can be summarised as follows:

- 4 incidents relate to applying pesticide to crops (mainly potatoes), but also involves application to tomato, cucumbers, root vegetables, beans and orchard fruits using backpack sprayer or/and brooms/brushes:
 - Three were using a brush/brooms and bucket to apply pesticides;
 - Three were using a backpack sprayer;
- 1 incident relating to mixing and loading/preparing the pesticide for use;
- 3 incidents relate to applying karate to cattle with sponges in order to control ecto-parasites (not a registered use).

6 of the reports relate to people who just wear ordinary clothes with no protection when handling pesticides. Two of the reports relate to people wearing ordinary clothes plus boots and a dust mask (not a chemical resistant mask). One of these people also wore gloves (again, not chemical resistant).

The lack of PPE is typical of the situation in Georgia. Few suppliers in Georgia offer PPE. Even people wishing to purchase it will have difficulty finding effective PPE. Some people use dust masks and builders' gloves in the mistaken belief that these items will offer sufficient protection (as seen in two of the reported incidents).

Symptoms reported include eye and skin irritation, headache and nausea.

More detailed reports of the individual incidents are found in the Annex II attached.

- ***Any regulatory, administrative or other measure taken, or intended to be taken, by the proposing Party in response to such incidents:***

Georgia has already responded to the results of recent surveys by taking stronger steps to enforce regulations on labelling and repacking of pesticides.

Georgia does not have organised reporting systems for incidents of pesticide poisoning. The National Food Agency is sometimes alerted to incidents called to the National Food Agency (NFA) hot line. Until now, no measures have been taken at national level. However, accidents of health damage among the agricultural workers do exist; chemical intoxication/accidents have been occurring in various regions of Georgia. As a pesticides registration agency, National Food Agency has information on all registered pesticides in the country. But unfortunately, the poisoning cases are not registered by the Agency. Lack of a poisoning centre accessible 24/24 hrs 7 days a week and access to relevant information on pesticide toxicology (diagnosis and treatment) as well as absence of an incident reporting procedure makes it difficult to keep record of such incidents and cases.

GEORGIA

Name of the formulation: Karate zeon

Type of formulation (for example EC, WP, DP, GR, TB): 5 CS

Trade name and name of producer, if available: Karate zeon, Syngenta Crop Protection AG Basel Switzerland

Name of the active ingredient or ingredients in the formulation: lambda-cyhalothrin

Relative amount of each active ingredient in the formulation: 50 g/L (% concentration)

Attach copy of the label(s), if available (or describe the key aspects of the label: language, etc.):
The label is attached.

Common and recognized patterns of use of the formulation within the country:

- **The formulation is registered / permitted for use in the country?**

Registered and permitted for use since 22.12.98, RE-preregistration in 2004, 2009, 2014, Reg.# 048/04/09/14, permitted for use until 2019.

- **What uses are permitted? Agrarian uses as follows:**

Wheat, barley 0.15-0.2 l/ha, maize 0.2 l/ha, soy bean 0.4 l/ha, apple 0.4-0.8 l/ha, stone and pome fruit (nursery) 0.3-0.4 l/ha, potato 0.1-0.3 l/ha, cabbage, tomato 0.1 l/ha, raspberry 0.4 l/ha, strawberry 0.5 l/ha, currant 0.3-0.4 l/ha, non-bearing orchard, city green plantation wind and forest shelter 0.2-0.4 l/ha, grape 0.3-0.4 l/ha, non-agricultural lands 0.1-0.4 l/ha, drug plants 0.1-0.4 l/ha, pine 2.5-5 ml/m², not loaded store-houses, grain processing households 0.4 ml/m², store-houses grain processing households areas 0.8 ml/m².

The regulatory authority is aware that some households use Karate for 'domestic use' on animals (cattle) but no products with Lambda cyhalothrin are currently registered for veterinary use.

- **Are there any handling or applicator restrictions specified as a condition of registration?**

NO.

- **Information on the extent of use of the formulation, such as the number of registrations or production or sales quantity:**

Georgia does not produce pesticides. 3000 t pesticides imports are recorded annually, but records are not kept for individual products.

Products registered in Georgia containing Lambda cyhalothrin include: Karate, Karate Zeon, Valsamba, Kaiso, Grand 5, Kung-FU, Efdal lamothrin, Tecvando capsula, Cavancha.

The exporting countries/countries of origin is Syngenta Crop Protection AG Basel Switzerland; label information: Contact office Syngenta Crop Protection AG Basel Switzerland, P.O. Box 1777.

A state registration and control system was established in the country after 1998 when the law of Georgia on "pesticides and agrochemicals" was enacted. The Ministry of Agriculture and The Ministry of Environment Protection and Natural Resources, Ministry of health are involved in this system.

Pesticides with the active ingredient Lambda cyhalothrin are widely used in Georgia. Of the 497 farmers that identified products used most, 29% said they used Lambda cyhalothrin (compared to the next most common product, dimethoate, used by 12% of farmers).

Karate is used against the main target pests in agricultural crops. A survey in 2016 indicated that its primary uses in the target area of Kvemo Kartli are against Colorado beetle (*Leptinotarsa decemlineata*) in potato crops; against mole crickets (*Gryllotalpa* spp.) and non-registered use against ecto-parasites on cattle. The common crops in which it is used include potato, tomato, orchard fruits. Details of incidents are provided in the attached Annex II.

- **Other information on how the formulation is commonly/typically used in the country:**

Please see Part B and Annex III for details.

- ***A clear description of incidents(s) related to the problem, including adverse effects and the way in which the formulation was used. Other report formats which may exist at the national level may also be used, provided they contain comparable information:***

The survey in 2016 collected details of 8 incidents relating to Karate and 1 incident relating to Karate Zeon. In all cases the active ingredient is Lambda cyhalothrin.

The incident relating to Karate zeon can be summarised as follows:

- Occurred when preparing and / or spraying pesticides;
- Frequency of application is about 3 times per year;
- Symptoms occurred 5-12 hours after exposure;
- No protective equipment was used;
- Both suffered headache and skin irritation but one described more extensive and unusual symptoms. This person was rather elderly, we don't know if that was a factor;
- One incident on orchard crops; one on field crops;
- One incident occurred while a backpack sprayer was being used; the other was using brushes and a bucket of pesticide.

More detailed reports of the individual incidents are found in the Annex attached.

- ***Any regulatory, administrative or other measure taken, or intended to be taken, by the proposing Party in response to such incidents:***

Georgia has already responded to the results of recent surveys by taking stronger steps to enforce regulations on labelling and repacking of pesticides.

Georgia does not have organised reporting systems for incidents of pesticide poisoning. The National Food Agency is sometimes alerted to incidents called to the National Food Agency (NFA) hot line. Until now, no measures have been taken at national level. However, accidents of health damage among the agricultural workers do exist; chemical intoxication/accidents have been occurring in various regions of Georgia. As a pesticides registration agency, National Food Agency has information on all registered pesticides in the country. But unfortunately, the poisoning cases are not registered by the Agency. Lack of a poisoning centre accessible 24/24 hrs 7 days a week and access to relevant information on pesticide toxicology (diagnosis and treatment) as well as absence of an incident reporting procedure makes it difficult to keep record of such incidents and cases.

PART B

PROPOSALS FOR INCLUSION OF SEVERELY HAZARDOUS PESTICIDE FORMULATIONS STILL UNDER VERIFICATION

No proposals for inclusion of severely hazardous pesticide formulations in the PIC procedure are currently under verification by the Secretariat.

APPENDIX III

CHEMICALS SUBJECT TO THE PIC PROCEDURE

| Chemical | CAS number | Category | Date of first dispatch of decision guidance document |
|--|---|-----------|--|
| 2,4,5-T and its salts and esters | 93-76-5* | Pesticide | Prior to adoption of Convention |
| Alachlor | 15972-60-8 | Pesticide | 24 October 2011 |
| Aldicarb | 116-06-3 | Pesticide | 24 October 2011 |
| Aldrin | 309-00-2 | Pesticide | Prior to adoption of Convention |
| Azinphos-methyl | 86-50-0 | Pesticide | 10 August 2013 |
| Binapacryl | 485-31-4 | Pesticide | 1 February 2005 |
| Captafol | 2425-06-1 | Pesticide | Prior to adoption of Convention |
| Carbofuran | 1563-66-2 | Pesticide | To be issued on 15 September 2017 |
| Chlordane | 57-74-9 | Pesticide | Prior to adoption of Convention |
| Chlordimeform | 6164-98-3 | Pesticide | Prior to adoption of Convention |
| Chlorobenzilate | 510-15-6 | Pesticide | Prior to adoption of Convention |
| DDT | 50-29-3 | Pesticide | Prior to adoption of Convention |
| Dieldrin | 60-57-1 | Pesticide | Prior to adoption of Convention |
| Dinitro- <i>ortho</i> -cresol (DNOC) and its salts (such as ammonium salt, potassium salt and sodium salt) | 534-52-1 2980-64-5 5787-96-2 2312-76-7 | Pesticide | 1 February 2005 |
| Dinoseb and its salts and esters | 88-85-7* | Pesticide | Prior to adoption of Convention |
| 1,2-dibromoethane (EDB) | 106-93-4 | Pesticide | Prior to adoption of Convention |
| Endosulfan | 115-29-7 | Pesticide | 24 October 2011 |
| Ethylene dichloride | 107-06-2 | Pesticide | 1 February 2005 |
| Ethylene oxide | 75-21-8 | Pesticide | 1 February 2005 |
| Fluoroacetamide | 640-19-7 | Pesticide | Prior to adoption of Convention |
| HCH (mixed isomers) | 608-73-1 | Pesticide | Prior to adoption of Convention |
| Heptachlor | 76-44-8 | Pesticide | Prior to adoption of Convention |
| Hexachlorobenzene | 118-74-1 | Pesticide | Prior to adoption of Convention |
| Lindane | 58-89-9 | Pesticide | Prior to adoption of Convention |
| Mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds | | Pesticide | Prior to adoption of Convention |
| Methamidophos | 10265-92-6 | Pesticide | 15 September 2015 |
| Monocrotophos | 6923-22-4 | Pesticide | 1 February 2005 |
| Parathion | 56-38-2 | Pesticide | 1 February 2005 |
| Pentachlorophenol and its salts and esters | 87-86-5* | Pesticide | Prior to adoption of Convention |
| Toxaphene | 8001-35-2 | Pesticide | 1 February 2005 |

| Chemical | CAS number | Category | Date of first dispatch of decision guidance document |
|---|---|--|---|
| All tributyltin compounds including: - Tributyltin oxide - Tributyltin fluoride - Tributyltin methacrylate - Tributyltin benzoate - Tributyltin chloride - Tributyltin linoleate - Tributyltin naphthenate | 56-35-9 1983-10-4 2155-70-6 4342-36-3 1461-22-9 24124-25-2 85409-17-2 | Pesticide | 1 February 2009 |
| Trichlorfon | 52-68-6 | Pesticide | To be issued on 15 September 2017 |
| Dustable powder formulations containing a combination of: - Benomyl at or above 7%, - Carbofuran at or above 10%, - Thiram at or above 15% | 17804-35-2 1563-66-2 137-26-8 | Severely hazardous pesticide formulation | 1 February 2005 |
| Phosphamidon (soluble liquid formulations of the substance that exceed 1000 g active ingredient/l) | 13171-21-6 (mixture, (E)&(Z) isomers) 23783-98-4 ((Z)-isomer) 297-99-4 ((E)-isomer) | Severely hazardous pesticide formulation | Prior to adoption of Convention |
| Methyl-parathion (emulsifiable concentrates (EC) at or above 19.5% active ingredient and dusts at or above 1.5% active ingredient) | 298-00-0 | Severely hazardous pesticide formulation | Prior to adoption of Convention |
| Asbestos: - Actinolite - Anthophyllite - Amosite - Crocidolite - Tremolite | 77536-66-4 77536-67-5 12172-73-5 12001-28-4 77536-68-6 | Industrial | 1 February 2005 1 February 2005 1 February 2005 Prior to adoption of Convention 1 February 2005 |
| Commercial octabromodiphenyl ether including: - Hexabromodiphenyl ether - Heptabromodiphenyl ether | 36483-60-0 68928-80-3 | Industrial | 10 August 2013 |
| Commercial pentabromodiphenyl ether including: - Tetrabromodiphenyl ether - Pentabromodiphenyl ether | 40088-47-9 32534-81-9 | Industrial | 10 August 2013 |

| Chemical | CAS number | Category | Date of first dispatch of decision guidance document |
|---|---|------------|--|
| Perfluorooctane sulfonic acid, perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyls including: - Perfluorooctane sulfonic acid - Potassium perfluorooctane sulfonate - Lithium perfluorooctane sulfonate - Ammonium perfluorooctane sulfonate - Diethanolammonium perfluorooctane sulfonate - Tetraethylammonium perfluorooctane sulfonate - Didecyldimethylammonium perfluorooctane sulfonate - N-Ethylperfluorooctane sulfonamide - N-Methylperfluorooctane sulfonamide - N-Ethyl-N-(2-hydroxyethyl) perfluorooctane sulfonamide - N-(2-Hydroxyethyl)-N-methylperfluorooctane sulfonamide - Perfluorooctane sulfonyl fluoride | 1763-23-1 2795-39-3 29457-72-5 29081-56-9 70225-14-8 56773-42-3 251099-16-8 4151-50-2 31506-32-8 1691-99-2 24448-09-7 307-35-7 | Industrial | 10 August 2013 |
| Polybrominated biphenyls (PBB) | 36355-01-8 (hexa-) 27858-07-7 (octa-) 13654-09-6 (deca-) | Industrial | Prior to adoption of Convention |
| Polychlorinated biphenyls (PCB) | 1336-36-3 | Industrial | Prior to adoption of Convention |
| Polychlorinated terphenyls (PCT) | 61788-33-8 | Industrial | Prior to adoption of Convention |
| Short-chain chlorinated paraffins | 85535-84-8 | Industrial | To be issued on 15 September 2017 |
| Tetraethyl lead | 78-00-2 | Industrial | 1 February 2005 |
| Tetramethyl lead | 75-74-1 | Industrial | 1 February 2005 |
| All tributyltin compounds including: - Tributyltin oxide - Tributyltin fluoride - Tributyltin methacrylate - Tributyltin benzoate - Tributyltin chloride - Tributyltin linoleate - Tributyltin naphthenate | 56-35-9 1983-10-4 2155-70-6 4342-36-3 1461-22-9 24124-25-2 85409-17-2 | Industrial | To be issued on 15 September 2017 |
| Tris(2,3-dibromopropyl) phosphate | 126-72-7 | Industrial | Prior to adoption of Convention |

*Only the CAS numbers of parent compounds are listed. For a list of other relevant CAS numbers, reference may be made to the relevant decision guidance document.

APPENDIX IV**LISTING OF ALL IMPORT RESPONSES RECEIVED FROM PARTIES AND CASES OF FAILURE TO SUBMIT RESPONSES**

All import responses received from Parties and cases of failure to submit responses are available in the online database on the Convention website: <http://www.pic.int/tabid/1370/Default.aspx>.

The online database is presented with four tabs:

1. Import responses recently transmitted;
2. Import responses by Party;
3. Import responses by Chemical;
4. Cases of failure to submit responses.

The new import responses received since the last PIC Circular (between 1 November 2016 and 30 April 2017) may be viewed under the first tab “Import responses recently transmitted”. The overview of those new import responses is available in this appendix.

All import responses, including latest and previously transmitted information, may be viewed under the second tab “Import responses by Party” or the third tab “Import responses by Chemical”.

A list of those Parties which have failed to provide a response regarding future import of a chemical within 9 months of the date of dispatch of the decision guidance document may be viewed under the fourth tab “Cases of failure to submit responses”. It also includes the date on which the Secretariat first informed all Parties, through publication in the PIC Circular, of cases of failure to transmit a response.

OVERVIEW OF NEW IMPORT RESPONSES RECEIVED SINCE THE LAST PIC CIRCULAR

Pesticides

2,4,5-T and its salts and esters

Armenia

Alachlor

Armenia

Guinea

Aldicarb

Armenia

Guinea

Azinphos-methyl

Armenia

El Salvador

Guinea

DDT

European Union

Dinoseb and its salts and esters

Armenia

1,2-dibromoethane (EDB)

Gabon

Endosulfan

Guinea

Ethylene oxide

European Union

Heptachlor

Gabon

Methamidophos

Armenia

Guinea

Guinea-Bissau

Malaysia

European Union

The Former Yugoslav Republic of
Macedonia

Monocrotophos

Armenia

Parathion

Armenia

Pentachlorophenol and its salts and esters

Armenia

Tributyltin compounds

Armenia

Guinea

Severely hazardous pesticide formulations

Dustable powder formulations containing a combination of benomyl at or above 7%, carbofuran at or above 10% and thiram at or above 15%

Guinea

Methyl-parathion (Emulsifiable concentrates (EC) at or above 19.5% active ingredient and dusts at or above 1.5% active ingredient)

Armenia

Guinea

Industrial Chemicals

Actinolite asbestos

Armenia

Bosnia and Herzegovina

Republic of Congo

Amosite asbestos

Armenia

Bosnia and Herzegovina

Anthophyllite

Armenia

Bosnia and Herzegovina

Republic of Congo

Crocidolite

Armenia

Bosnia and Herzegovina

Republic of Congo

Tremolite

Armenia

Bosnia and Herzegovina

Republic of Congo

Commercial octabromodiphenyl ether (including hexabromodiphenyl ether and heptabromodiphenyl ether)

Bosnia and Herzegovina

El Salvador

Guyana

Commercial pentabromodiphenyl ether (including tetrabromodiphenyl ether and pentabromodiphenyl ether)

Bosnia and Herzegovina

El Salvador

Guyana

**Perfluorooctane sulfonic acid,
perfluorooctane sulfonates,
perfluorooctane sulfonamides and
perfluorooctane sulfonyls**

Bosnia and Herzegovina

El Salvador

Guyana

Saint Kitts and Nevis

Polybrominated biphenyls (PBB)

Bosnia and Herzegovina

Polychlorinated biphenyls (PCB)

Bosnia and Herzegovina

South Africa

Polychlorinated terphenyls (PCT)

Bosnia and Herzegovina

Republic of Congo

Tetraethyl lead

Armenia

Bosnia and Herzegovina

Tetramethyl lead

Armenia

Bosnia and Herzegovina

Republic of Congo

Tris(2,3 dibromopropyl)phosphate

Bosnia and Herzegovina

Republic of Congo

APENDIX V**NOTIFICATIONS OF FINAL REGULATORY ACTION FOR CHEMICALS NOT LISTED
IN ANNEX III**

This appendix consists of two parts:

Part A: Notifications of final regulatory action for chemicals not listed in Annex III and verified as containing all the information required in Annex I to the Convention

The tabular summary lists all the notifications received during the interim PIC procedure and the current PIC procedure (September 1998 to 30 April 2017) verified as containing all the information required in Annex I to the Convention. The Rotterdam Convention website (www.pic.int) has information regarding all the PIC Circulars and summaries of notifications.

Part B: Notifications of final regulatory action for chemicals not listed in Annex III and verified as not containing all the information required in Annex I to the Convention

The tabular summary lists all the notifications received during the interim PIC procedure and the current PIC procedure (September 1998 to 30 April 2017) verified as not containing all the information required in Annex I to the Convention.

Notifications of final regulatory action for chemicals not listed in Annex III**PART A****NOTIFICATIONS OF FINAL REGULATORY ACTION FOR CHEMICALS NOT LISTED
IN ANNEX III AND VERIFIED AS CONTAINING ALL THE INFORMATION
REQUIRED IN ANNEX I TO THE CONVENTION**

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|--|-------------|------------|-------------------|---------------|---------------------------|
| 1,1,1,2-Tetrachloroethane | 630-20-6 | Industrial | Latvia | Europe | XX |
| 1,1,1-Trichloroethane | 71-55-6 | Industrial | Latvia | Europe | XX |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | Industrial | Latvia | Europe | XX |
| 1,1,2-Trichloroethane | 79-00-5 | Industrial | Latvia | Europe | XX |
| 1,1-Dichloroethylene | 75-35-4 | Industrial | Latvia | Europe | XX |
| 1,3-Dichloropropene | 542-75-6 | Pesticide | European Union | Europe | XXXVI |
| 2-Nitrobenzaldehyde | 552-89-6 | Industrial | Latvia | Europe | XX |
| 2,4,5-TP (Silvex; Fenoprop) | 93-72-1 | Pesticide | Thailand | Asia | XIV |
| 2,4,6-Tri-tert-butylphenol | 732-26-3 | Industrial | Japan | Asia | XXI |
| 2,4-D | 94-75-7 | Pesticide | Norway | Europe | XIII |
| 2-Ethyl-1,3-hexanediol | 94-96-2 | Pesticide | Thailand | Asia | XX |
| 2-Naphthylamine | 91-59-8 | Industrial | Japan | Asia | XXI |
| 2-Naphthylamine | 91-59-8 | Industrial | Latvia | Europe | XX |
| 2-Naphthylamine | 91-59-8 | Industrial | Republic of Korea | Asia | XX |
| 2-Naphthylamine | 91-59-8 | Industrial | Switzerland | Europe | XXIII |
| 2-Propen-1-ol, reaction products with pentafluoroiodoethane tetrafluoroethylene telomer, dehydroiodinated, reaction products with epichlorohydrin and triethylenetetramine | 464178-90-3 | Industrial | Canada | North America | XLI |
| 2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with butyl 2-propenoate and 2,5 furandione, gamma-omega-perfluoro-C8-14-alkyl esters, tert-Bu benzenecarboperoxoate-initiated | 459415-06-6 | Industrial | Canada | North America | XLI |
| 2-Propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, gamma-omega-perfluoro-C10-16-alkyl acrylate and stearyl methacrylate | 203743-03-7 | Industrial | Canada | North America | XLI |
| 4-Aminobiphenyl | 92-67-1 | Industrial | Japan | Asia | XXI |
| 4-Aminobiphenyl | 92-67-1 | Industrial | Latvia | Europe | XX |
| 4-Aminobiphenyl | 92-67-1 | Industrial | Republic of Korea | Asia | XX |
| 4-Aminobiphenyl | 92-67-1 | Industrial | Switzerland | Europe | XXIII |
| 4-Nitrobiphenyl | 92-93-3 | Industrial | Japan | Asia | XXI |
| 4-Nitrobiphenyl | 92-93-3 | Industrial | Latvia | Europe | XX |
| 4-Nitrobiphenyl | 92-93-3 | Industrial | Switzerland | Europe | XXIII |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|--|-------------|------------------------|----------------------------|---------------|---------------------------|
| Acephate | 30560-19-1 | Pesticide | European Union | Europe | XVIII |
| Acetochlor | 34256-82-1 | Pesticide | Burkina Faso | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Cabo Verde | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Chad | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | European Union | Europe | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Gambia | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Guinea-Bissau | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Mali | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Mauritania | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Niger | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Senegal | Africa | XLV |
| Acetochlor | 34256-82-1 | Pesticide | Togo | Africa | XLV |
| Allyl alcohol | 107-18-6 | Pesticide | Canada | North America | XXII |
| Aluminium phosphide | 20859-73-8 | Pesticide & Industrial | Japan | Asia | XX |
| Aminopyralid | 150114-71-9 | Pesticide | Norway | Europe | XXXIII |
| Amitraz | 33089-61-1 | Pesticide | European Union | Europe | XXI |
| Amitraz | 33089-61-1 | Pesticide | Iran (Islamic Republic of) | Asia | XXX |
| Amitraz | 33089-61-1 | Pesticide | Syrian Arab Republic | Near East | XXXII |
| Amitrole | 61-82-5 | Pesticide | Thailand | Asia | XX |
| Ammonium hydrogen sulfide | 12124-99-1 | Industrial | Latvia | Europe | XX |
| Ammonium polysulfide | 9080-17-5 | Industrial | Latvia | Europe | XX |
| Anthracene oil | 90640-80-5 | Industrial | Latvia | Europe | XX |
| Aramite | 140-57-8 | Pesticide | Thailand | Asia | XIV |
| Arsenic compounds | 7440-38-2 | Industrial | Latvia | Europe | XX |
| Arsenic pentoxide | 1303-28-2 | Industrial | Republic of Korea | Asia | XX |
| Atrazine | 1912-24-9 | Pesticide | Cabo Verde | Africa | XLI |
| Atrazine | 1912-24-9 | Pesticide | Chad | Africa | XLI |
| Atrazine | 1912-24-9 | Pesticide | European Union | Europe | XXI |
| Atrazine | 1912-24-9 | Pesticide | Gambia | Africa | XLI |
| Atrazine | 1912-24-9 | Pesticide | Mauritania | Africa | XLI |
| Atrazine | 1912-24-9 | Pesticide | Niger | Africa | XLI |
| Atrazine | 1912-24-9 | Pesticide | Senegal | Africa | XLI |
| Atrazine | 1912-24-9 | Pesticide | Togo | Africa | XLI |
| Azinphos ethyl | 2642-71-9 | Pesticide | Thailand | Asia | XIV |
| Benfuracarb | 82560-54-1 | Pesticide | European Union | Europe | XXXV |
| Bentazon | 25057-89-0 | Pesticide | Norway | Europe | XIII |
| Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST) | 68921-45-9 | Industrial | Canada | North America | XLII |
| Benzene | 71-43-2 | Industrial | Latvia | Europe | XX |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|-------------|------------|----------------------|---------------|---------------------------|
| Benzidine | 92-87-5 | Industrial | Canada | North America | XXI |
| Benzidine | 92-87-5 | Industrial | Canada | North America | XXVIII |
| Benzidine | 92-87-5 | Industrial | Jordan | Near East | XLII |
| Benzidine | 92-87-5 | Industrial | Republic of Korea | Asia | XX |
| Benzidine | 92-87-5 | Industrial | Latvia | Europe | XX |
| Benzidine and its salts | 92-87-5 | Industrial | India | Asia | XX |
| Benzidine and its salts | 92-87-5 | Industrial | Japan | Asia | XXI |
| Benzidine and its salts | 92-87-5 | Industrial | Jordan | Near East | XVIII |
| Benzidine and its salts | 92-87-5 | Industrial | Switzerland | Europe | XXIII |
| b-Hexachlorocyclohexane | 319-85-7 | Pesticide | China | Asia | XLV |
| b-Hexachlorocyclohexane | 319-85-7 | Industrial | Japan | Asia | XXXII |
| b-Hexachlorocyclohexane | 319-85-7 | Pesticide | Japan | Asia | XXXIII |
| b-Hexachlorocyclohexane | 319-85-7 | Pesticide | Thailand | Asia | XX |
| Bifenthrin | 82657-04-3 | Pesticide | Netherlands | Europe | XIV |
| Bis(2-chloroethyl)ether | 111-44-4 | Industrial | Republic of Korea | Asia | XX |
| Bis(chloromethyl)ether | 542-88-1 | Industrial | Canada | North America | XII |
| Bis(chloromethyl)ether | 542-88-1 | Industrial | Japan | Asia | XXI |
| Bis(chloromethyl)ether | 542-88-1 | Industrial | Republic of Korea | Asia | XX |
| Bitertanol | 55179-31-2 | Pesticide | Norway | Europe | XXXV |
| Bromobenzylbromotoluene | 99688-47-8 | Industrial | Latvia | Europe | XX |
| Bromobenzylbromotoluene | 99688-47-8 | Industrial | Switzerland | Europe | XXIII |
| Bromochlorodifluoromethane (Halon 1211) | 353-59-3 | Industrial | Canada | North America | XIII |
| Bromochloromethane | 74-97-5 | Industrial | Thailand | Asia | XXIV |
| Bromotrifluoromethane | 75-63-8 | Industrial | Canada | North America | XII |
| Bromoxynil octanoate | 1689-99-2 | Pesticide | Norway | Europe | XIV |
| Bromuconazole | 116255-48-2 | Pesticide | Norway | Europe | XIII |
| Butralin | 33629-47-9 | Pesticide | European Union | Europe | XXXIII |
| Cadmium | 7440-43-9 | Industrial | Latvia | Europe | XX |
| Cadusafos | 95465-99-9 | Pesticide | European Union | Europe | XXXVI |
| Calcium arsenate | 7778-44-1 | Pesticide | Thailand | Asia | XIV |
| Carbaryl | 63-25-2 | Pesticide | European Union | Europe | XXVI |
| Carbaryl | 63-25-2 | Pesticide | Jordan | Near East | XVIII |
| Carbaryl | 63-25-2 | Pesticide | Syrian Arab Republic | Near East | XXXII |
| Carbofuran | 1563-66-2 | Pesticide | Cabo Verde | Africa | XLI |
| Carbofuran | 1563-66-2 | Pesticide | Canada | North America | XL |
| Carbofuran | 1563-66-2 | Pesticide | Chad | Africa | XLI |
| Carbofuran | 1563-66-2 | Pesticide | European Union | Europe | XXXV |
| Carbofuran | 1563-66-2 | Pesticide | Gambia | Africa | XLI |
| Carbofuran | 1563-66-2 | Pesticide | Mauritania | Africa | XLI |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|--|---|------------------------|-------------------|---------------------------------|---------------------------|
| Carbofuran | 1563-66-2 | Pesticide | Niger | Africa | XLI |
| Carbofuran | 1563-66-2 | Pesticide | Senegal | Africa | XLI |
| Carbofuran | 1563-66-2 | Pesticide | Togo | Africa | XLI |
| Carbon tetrachloride | 56-23-5 | Pesticide & Industrial | Canada | North America | XII |
| Carbon tetrachloride | 56-23-5 | Industrial | Jordan | Near East | XLIV |
| Carbon tetrachloride | 56-23-5 | Industrial | Latvia | Europe | XX |
| Carbon tetrachloride | 56-23-5 | Industrial | Republic of Korea | Asia | XX |
| Carbon tetrachloride | 56-23-5 | Pesticide & Industrial | Switzerland | Europe | XXI |
| Carbon tetrachloride | 56-23-5 | Pesticide | Thailand | Asia | XX |
| Carbosulfan | 55285-14-8 | Pesticide | Burkina Faso | Africa | XLI |
| Carbosulfan | 55285-14-8 | Pesticide | Cabo Verde | Africa | XLI |
| Carbosulfan | 55285-14-8 | Pesticide | Chad | Africa | XLI |
| Carbosulfan | 55285-14-8 | Pesticide | European Union | Europe | XXXV |
| Carbosulfan | 55285-14-8 | Pesticide | Gambia | Africa | XLI |
| Carbosulfan | 55285-14-8 | Pesticide | Mauritania | Africa | XLI |
| Carbosulfan | 55285-14-8 | Pesticide | Niger | Africa | XLI |
| Carbosulfan | 55285-14-8 | Pesticide | Senegal | Africa | XLI |
| Carbosulfan | 55285-14-8 | Pesticide | Togo | Africa | XLI |
| Chloral hydrate | 302-17-0 | Pesticide | Netherlands | Europe | XIV |
| Chlorates (including but not limited to Na, Mg, K chlorates) | 7775-09-9, 10326-21-3, 3811-04-9 and others | Pesticide | European Union | Europe | XXXVIII |
| Chlordecone | 143-50-0 | Pesticide | China | Asia | XLV |
| Chlordecone | 143-50-0 | Industrial | Japan | Asia | XXXII |
| Chlordecone | 143-50-0 | Pesticide | Japan | Asia | XXXIII |
| Chlordecone | 143-50-0 | Pesticide | Peru | Latin America and the Caribbean | XLV |
| Chlordecone | 143-50-0 | Pesticide | Switzerland | Europe | XX |
| Chlordecone | 143-50-0 | Pesticide | Thailand | Asia | XIV |
| Chlorfenapyr | 122453-73-0 | Pesticide | European Union | Europe | XVIII |
| Chlorfenvinphos | 470-90-6 | Pesticide | Norway | Europe | XIII |
| Chlormitrofen | 1836-77-7 | Pesticide | Japan | Asia | XX |
| Chloroethylene | 75-01-4 | Industrial | Latvia | Europe | XX |
| Chlorofluorocarbon (totally halogenated) | 75-69-4, 75-71-8, 76-13-1, 76-14-2, 76-15-3 | Industrial | Canada | North America | XII |
| Chloroform | 67-66-3 | Industrial | Latvia | Europe | XX |
| Chloromethyl methyl ether | 107-30-2 | Industrial | Canada | North America | XXVIII |
| Chlorsulfuron | 64902-72-3 | Pesticide | Norway | Europe | XIII |
| Chlorthal-dimethyl | 1861-32-1 | Pesticide | European Union | Europe | XXXVII |
| Chlorthiophos | 60238-56-4 | Pesticide | Thailand | Asia | XIV |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|-------------------------------|------------------------|----------------|---------------------------------|---------------------------|
| Chlozolinate | 84332-86-5 | Pesticide | European Union | Europe | XVI |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | Australia | Southwest Pacific | XIX |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | Bulgaria | Europe | XXII |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | Chile | Latin America and the Caribbean | XV |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | European Union | Europe | XIII |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | Japan | Asia | XXX |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | Japan | Asia | XXV |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | Latvia | Europe | XX |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | South Africa | Africa | XXX |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | Switzerland | Europe | XXI |
| Creosote | 8001-58-9 | Industrial | Latvia | Europe | XX |
| Creosote oil | 61789-28-4 | Industrial | Latvia | Europe | XX |
| Creosote oil, acenaphthene fraction | 90640-84-9 | Industrial | Latvia | Europe | XX |
| Creosote, wood | 8021-39-4 | Industrial | Latvia | Europe | XX |
| Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha-isomer | 319-84-6 | Pesticide | China | Asia | XLV |
| Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha-isomer | 319-84-6 | Industrial | Japan | Asia | XXXII |
| Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha-isomer | 319-84-6 | Pesticide | Japan | Asia | XXXIII |
| Cycloheximide | 66-81-9 | Pesticide | Thailand | Asia | XIV |
| Cyhexatin | 13121-70-5 | Pesticide | Brazil | Latin America and the Caribbean | XXXVI |
| Cyhexatin | 13121-70-5 | Pesticide | Canada | North America | XXII |
| Cyhexatin | 13121-70-5 | Pesticide | Japan | Asia | XX |
| DDD | 72-54-8 | Pesticide | Thailand | Asia | XX |
| Decabromodiphenyl ether (decaBDE) | 1163-19-5 | Industrial | Norway | Europe | XXXIX |
| Demephion- <i>O</i> | 682-80-4 | Pesticide | Thailand | Asia | XIV |
| Demeton- methyl (isomeric mixture of demeton- <i>O</i> -methyl and demeton- <i>S</i> -methyl) | 8022-00-2, 867-27-6, 919-86-8 | Pesticide & Industrial | Japan | Asia | XX |
| Diazinon | 333-41-5 | Pesticide | European Union | Europe | XXXII |
| Dibromochloropropane (DBCP) | 96-12-8 | Pesticide | Canada | North America | XXII |
| Dibromochloropropane (DBCP) | 96-12-8 | Pesticide | Colombia | Latin America and the Caribbean | XLV |
| Dibromochloropropane (DBCP) | 96-12-8 | Pesticide | Thailand | Asia | XIV |
| Dibromotetrafluoroethane | 124-73-2 | Industrial | Canada | North America | XIII |
| Dibutyltin hydrogen borate (DBB) | 75113-37-0 | Industrial | Latvia | Europe | XX |
| Dichlobenil | 1194-65-6 | Pesticide | European Union | Europe | XXXVI |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|--|-------------------------|----------------|---------------------------------|---------------------------|
| Dichlobenil | 1194-65-6 | Pesticide | Norway | Europe | XII |
| Dichloro[(dichlorophenyl)methyl]methylbenzene | 76253-60-6 | Industrial | Latvia | Europe | XX |
| Dichloro[(dichlorophenyl)methyl]methylbenzene | 76253-60-6 | Industrial | Switzerland | Europe | XXIII |
| Dichlorobenzyltoluene | 81161-70-8 | Industrial | Switzerland | Europe | XXIII |
| Dichlorophen | 97-23-4 | Pesticide | Thailand | Asia | XIV |
| Dichlorvos | 62-73-7 | Pesticide | European Union | Europe | XXXIV |
| Dicloran | 99-30-9 | Pesticide | European Union | Europe | XXXVI |
| Dicofol | 115-32-2 | Pesticide | European Union | Europe | XXXIII |
| Dicofol | 115-32-2 | Industrial | Japan | Asia | XXII |
| Dicofol | 115-32-2 | Industrial | Japan | Asia | XXXII |
| Dicofol | 115-32-2 | Pesticide | Japan | Asia | XXXIII |
| Dicofol | 115-32-2 | Pesticide | Netherlands | Europe | XXII |
| Dicofol | 115-32-2 | Pesticide | Romania | Europe | XX |
| Dicofol | 115-32-2 | Pesticide | Switzerland | Europe | XXIV |
| Dicrotophos | 141-66-2 | Pesticide | Jordan | Near East | XVIII |
| Difenoconazole | 119446-68-3 | Pesticide | Norway | Europe | XXXII |
| Dimefox | 115-26-4 | Pesticide | Jordan | Near East | XVIII |
| Dimefox | 115-26-4 | Pesticide | Thailand | Asia | XIV |
| Dimethenamid | 87674-68-8 | Pesticide | European Union | Europe | XXVII |
| Diniconazole-M | 83657-18-5 | Pesticide | European Union | Europe | XXXIV |
| Dinoterb | 1420-07-1 | Pesticide | European Union | Europe | XIV |
| Dinoterb | 1420-07-1 | Pesticide | Switzerland | Europe | XX |
| Dinoterb | 1420-07-1 | Pesticide | Thailand | Asia | XIV |
| Diphenylamine | 122-39-4 | Pesticide | European Union | Europe | XXXIX |
| Distillates (coal tar), naphthalene oils | 84650-04-4 | Industrial | Latvia | Europe | XX |
| Distillates (coal tar), upper | 65996-91-0 | Industrial | Latvia | Europe | XX |
| Disulfoton | 298-04-4 | Pesticide | Thailand | Asia | XIV |
| Endosulfan | 115-29-7**, 959-98-8, 33213-65-9 | Pesticide* & Industrial | Japan | Asia | XLIV |
| Endrin | 72-20-8 | Pesticide | Bulgaria | Europe | XXII |
| Endrin | 72-20-8 | Pesticide | Canada | North America | XXII |
| Endrin | 72-20-8 | Pesticide | Guyana | Latin America and the Caribbean | XXVI |
| Endrin | 72-20-8 | Pesticide & Industrial | Japan | Asia | XX |
| Endrin | 72-20-8 | Pesticide | Jordan | Near East | XVIII |
| Endrin | 72-20-8 | Pesticide | Peru | Latin America and the Caribbean | XIII |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|--|------------------------|-------------------|---------------------------------|---------------------------|
| Endrin | 72-20-8 | Pesticide & Industrial | Republic of Korea | Asia | XX |
| Endrin | 72-20-8 | Pesticide | Romania | Europe | XX |
| Endrin | 72-20-8 | Pesticide | Switzerland | Europe | XX |
| Endrin | 72-20-8 | Pesticide | Uruguay | Latin America and the Caribbean | XXVIII |
| Epoxiconazole | 106325-08-0 | Pesticide | Norway | Europe | XIII |
| EPTC | 759-94-4 | Pesticide | Norway | Europe | XIII |
| Ethylbromoacetate | 105-36-2 | Industrial | Latvia | Europe | XX |
| Extract residues (coal), low temp. coal tar alk | 122384-78-5 | Industrial | Latvia | Europe | XX |
| Fenarimol | 60168-88-9 | Pesticide | European Union | Europe | XXXVII |
| Fenitrothion | 122-14-5 | Pesticide | European Union | Europe | XXXII |
| Fenthion | 55-38-9 | Pesticide | European Union | Europe | XXII |
| Fentin acetate | 115-90-2 | Pesticide | Thailand | Asia | XIV |
| Fentin hydroxide | 76-87-9 | Pesticide | European Union | Europe | XVI |
| Fipronil | 120068-37-3 | Pesticide | Cabo Verde | Africa | XLI |
| Fipronil | 120068-37-3 | Pesticide | Chad | Africa | XLI |
| Fipronil | 120068-37-3 | Pesticide | Gambia | Africa | XLI |
| Fipronil | 120068-37-3 | Pesticide | Mauritania | Africa | XLI |
| Fipronil | 120068-37-3 | Pesticide | Niger | Africa | XLI |
| Fipronil | 120068-37-3 | Pesticide | Senegal | Africa | XLI |
| Fipronil | 120068-37-3 | Pesticide | Togo | Africa | XLI |
| Fluazifop-P-butyl | 79241-46-6 | Pesticide | Norway | Europe | XIII |
| Fluazinam | 79622-59-6 | Pesticide | Norway | Europe | XXXII |
| Flufenoxuron | 101463-69-8 | Pesticide | European Union | Europe | XXXIX |
| Fluopicolide | 239110-15-7 | Pesticide | Norway | Europe | XLIII |
| Fluoroacetic acid | 144-49-0 | Pesticide & Industrial | Japan | Asia | XX |
| Flurprimidol | 56425-91-3 | Pesticide | European Union | Europe | XXXVI |
| Folpet | 133-07-3 | Pesticide | Malaysia | Asia | XII |
| Fonofos | 944-22-9 | Pesticide | Thailand | Asia | XIV |
| Furfural | 98-01-1 | Pesticide | Canada | North America | XXII |
| Hexabromocyclododecane | 25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8 | Industrial | China | Asia | XLV |
| Hexabromocyclododecane | 25637-99-4 | Industrial | Japan | Asia | XLIV |
| Hexabromocyclododecane | 25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8 | Industrial | Norway | Europe | XLIV |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|-------------|-------------------------|----------------------|---------------------------------|---------------------------|
| Hexachlorobenzene | 118-74-1 | Industrial | Canada | North America | XXVIII |
| Hexachlorobenzene | 118-74-1 | Industrial | China | Asia | XLII |
| Hexachlorobenzene | 118-74-1 | Pesticide* & Industrial | Japan | Asia | XX |
| Hexachlorobenzene | 118-74-1 | Pesticide* & Industrial | Panama | Latin America and the Caribbean | XIX |
| Hexachlorobutadiene | 87-68-3 | Industrial | Canada | North America | XXVIII |
| Hexachlorobutadiene | 87-68-3 | Industrial | Japan | Asia | XXII |
| Hexachloroethane | 67-72-1 | Industrial | Latvia | Europe | XX |
| Hexane, 1,6-diisocyanato-, homopolymer, reaction products with alpha-fluoro-omega-2-hydroxyethyl-poly(difluoromethylene), C ₁₆ -20-branched alcohols and 1-octadecanol | N/A | Industrial | Canada | North America | XLI |
| Hexazinon | 51235-04-2 | Pesticide | Burkina Faso | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Cabo Verde | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Chad | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Gambia | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Guinea-Bissau | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Mali | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Mauritania | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Niger | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Norway | Europe | XIII |
| Hexazinon | 51235-04-2 | Pesticide | Senegal | Africa | XLV |
| Hexazinon | 51235-04-2 | Pesticide | Togo | Africa | XLV |
| Imazalil | 35554-44-0 | Pesticide | Norway | Europe | XIII |
| Imazapyr | 81334-34-1 | Pesticide | Norway | Europe | XIV |
| Isodrin | 465-73-6 | Pesticide | Switzerland | Europe | XX |
| Isopyrazam | 881685-58-1 | Pesticide | Norway | Europe | XXXVII |
| Kelevan | 4234-79-1 | Pesticide | Switzerland | Europe | XX |
| Lead arsenate | 7784-40-9 | Pesticide | Japan | Asia | XX |
| Lead arsenate | 7784-40-9 | Pesticide | Peru | Latin America and the Caribbean | XXXV |
| Lead carbonate | 598-63-0 | Industrial | Jordan | Near East | XXXVI |
| Lead carbonate | 598-63-0 | Industrial | Latvia | Europe | XX |
| Lead hydroxycarbonate | 1319-46-6 | Industrial | Latvia | Europe | XX |
| Lead sulfate | 15739-80-7 | Industrial | Latvia | Europe | XX |
| Lead(II)sulfate | 7446-14-2 | Industrial | Latvia | Europe | XX |
| Linuron | 330-55-2 | Pesticide | Norway | Europe | XXVI |
| Malathion | 121-75-5 | Pesticide | Syrian Arab Republic | Near East | XXXII |
| Maleic hydrazide | 123-33-1 | Pesticide | Romania | Europe | XX |
| MCPA-thioethyl (phenothiol) | 25319-90-8 | Pesticide | Thailand | Asia | XIV |
| MCPB | 94-81-5 | Pesticide | Thailand | Asia | XIV |
| Mecoprop | 7085-19-0 | Pesticide | Thailand | Asia | XIV |
| Mephosfolan | 950-10-7 | Pesticide | Thailand | Asia | XIV |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|------------------------------|------------|------------------------|--------------------|---------------------------------|---------------------------|
| Mepiquat chloride | 24307-26-4 | Pesticide | Norway | Europe | XIII |
| Mercurous chloride (Calomel) | 10112-91-1 | Pesticide | Romania | Europe | XX |
| Mercury | 7439-97-6 | Industrial | Sweden | Europe | XXIII |
| Methazole | 20354-26-1 | Pesticide | Australia | Southwest Pacific | XII |
| Methyl bromide | 74-83-9 | Pesticide & Industrial | Malawi | Africa | XXX |
| Methyl bromide | 74-83-9 | Pesticide | Netherlands | Europe | XV |
| Methyl bromide | 74-83-9 | Pesticide & Industrial | Republic of Korea | Asia | XX |
| Methyl bromide | 74-83-9 | Pesticide & Industrial | Switzerland | Europe | XXI |
| Methyl bromoacetate | 96-32-2 | Industrial | Latvia | Europe | XX |
| Methyl cellosolve | 109-86-4 | Industrial | Canada | North America | XXVIII |
| Methyl parathion | 298-00-0 | Pesticide | Brazil | Latin America and the Caribbean | XX |
| Methyl parathion | 298-00-0 | Pesticide | Bulgaria | Europe | XXII |
| Methyl parathion | 298-00-0 | Pesticide | Côte d'Ivoire | Africa | XX |
| Methyl parathion | 298-00-0 | Pesticide | Dominican Republic | Latin America and the Caribbean | XXV |
| Methyl parathion | 298-00-0 | Pesticide | El Salvador | Latin America and the Caribbean | XX |
| Methyl parathion | 298-00-0 | Pesticide | European Union | Europe | XVIII |
| Methyl parathion | 298-00-0 | Pesticide | Gambia | Africa | XIX |
| Methyl parathion | 298-00-0 | Pesticide | Guyana | Latin America and the Caribbean | XXVI |
| Methyl parathion | 298-00-0 | Pesticide & Industrial | Japan | Asia | XX |
| Methyl parathion | 298-00-0 | Pesticide | Kyrgyzstan | Near East | XIX |
| Methyl parathion | 298-00-0 | Pesticide | Nigeria | Africa | XXI |
| Methyl parathion | 298-00-0 | Pesticide | Panama | Latin America and the Caribbean | XIX |
| Methyl parathion | 298-00-0 | Pesticide | Paraguay | Latin America and the Caribbean | XXIX |
| Methyl parathion | 298-00-0 | Pesticide | Thailand | Asia | XXI |
| Methyl parathion | 298-00-0 | Pesticide | Uruguay | Latin America and the Caribbean | XXVIII |
| Mevinphos | 26718-65-0 | Pesticide | Jordan | Near East | XVIII |
| Mevinphos | 26718-65-0 | Pesticide | Thailand | Asia | XIV |
| MGK Repellent 11 | 126-15-8 | Pesticide | Thailand | Asia | XX |
| Mirex | 2385-85-5 | Pesticide | Bulgaria | Europe | XXII |
| Mirex | 2385-85-5 | Industrial | Canada | North America | XII |
| Mirex | 2385-85-5 | Industrial | Canada | North America | XXVIII |
| Mirex | 2385-85-5 | Pesticide | Colombia | Latin America and the Caribbean | XLV |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|---|------------------------|----------------|---------------------------------|---------------------------|
| Mirex | 2385-85-5 | Pesticide | Cuba | Latin America and the Caribbean | XXVIII |
| Mirex | 2385-85-5 | Pesticide | Guyana | Latin America and the Caribbean | XXVI |
| Mirex | 2385-85-5 | Pesticide & Industrial | Japan | Asia | XXI |
| Mirex | 2385-85-5 | Pesticide & Industrial | Switzerland | Europe | XXIII |
| Mirex | 2385-85-5 | Pesticide | Thailand | Asia | XX |
| Mirex | 2385-85-5 | Pesticide | Uruguay | Latin America and the Caribbean | XXVIII |
| Monomethyl dichlorodiphenyl methane | 122808-61-1 | Industrial | Latvia | Europe | XX |
| N,N'-Ditolyl-p-phenylenediamine; N,N'-Dixyl-p-phenylenediamine; N-Tolyl-N'-xylyl-p-phenylenediamine | 27417-40-9, 28726-30-9, 70290-05-0 | Industrial | Japan | Asia | XXI |
| Naled | 300-76-5 | Pesticide | European Union | Europe | XXXIX |
| NCC ether | 94097-88-8 | Industrial | Canada | North America | XIII |
| NCC ether | 94097-88-8 | Industrial | Canada | North America | XXVIII |
| Nickel | 7440-02-0 | Industrial | Latvia | Europe | XX |
| Nitrofen | 1836-75-5 | Pesticide | European Union | Europe | XVI |
| Nitrofen | 1836-75-5 | Pesticide | Romania | Europe | XX |
| N-Nitrosodimethylamine | 62-75-9 | Industrial | Canada | North America | XXVIII |
| Nonylphenol | 11066-49-2, 25154-52-3, 84852-15-3, 90481-04-2 | Pesticide & Industrial | European Union | Europe | XXIII |
| Nonylphenol ethoxylate | 11066-49-2, 25154-52-3, 84852-15-3, 90481-04-2 | Pesticide & Industrial | European Union | Europe | XXIII |
| Nonylphenols and nonylphenol ethoxylates | 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3, 90481-04-2, 127087-87-0, 26027-38-3, 37205-87-1, 68412-54-4, 9016-45-9 | Pesticide & Industrial | Switzerland | Europe | XXXVI |
| Octylphenols and octylphenol ethoxylates | 140-66-9 | Pesticide & Industrial | Switzerland | Europe | XXXVI |
| Oxydemeton-methyl | 301-12-2 | Pesticide | European Union | Europe | XXX |
| Paraquat | 4685-14-7 | Pesticide | Sri Lanka | Asia | XXVIII |
| Paraquat | 4685-14-7 | Pesticide | Sweden | Europe | XXIII |
| Paraquat | 4685-14-7 | Pesticide | Togo | Africa | XLII |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|--|-------------------------|----------------------|---------------------------------|---------------------------|
| Paraquat dichloride | 1910-42-5 | Pesticide | Burkina Faso | Africa | XXXV |
| Paraquat dichloride | 1910-42-5 | Pesticide | Cabo Verde | Africa | XXXV |
| Paraquat dichloride | 1910-42-5 | Pesticide | Chad | Africa | XXXV |
| Paraquat dichloride | 1910-42-5 | Pesticide | Mali | Africa | XXXV |
| Paraquat dichloride | 1910-42-5 | Pesticide | Mauritania | Africa | XXXV |
| Paraquat dichloride | 1910-42-5 | Pesticide | Niger | Africa | XXXV |
| Paraquat dichloride | 1910-42-5 | Pesticide | Senegal | Africa | XXXV |
| Paraquat dichloride | 1910-42-5 | Pesticide | Sweden | Europe | XXIII |
| Paraquat dichloride | 1910-42-5 | Pesticide | Uruguay | Latin America and the Caribbean | XXVIII |
| Paraquat dimethyl,bis | 2074-50-2 | Pesticide | Sweden | Europe | XXIII |
| Paris green | 12002-03-8 | Pesticide | Thailand | Asia | XIV |
| Pendimethalin | 40487-42-1 | Pesticide | Norway | Europe | XXV |
| Pentachlorobenzene | 608-93-5 | Industrial | Canada | North America | XXVIII |
| Pentachlorobenzene | 608-93-5 | Pesticide | China | Asia | XLV |
| Pentachlorobenzene | 608-93-5 | Industrial | Japan | Asia | XXXII |
| Pentachlorobenzene | 608-93-5 | Pesticide | Japan | Asia | XXXIII |
| Pentachloroethane | 76-01-7 | Industrial | Latvia | Europe | XX |
| Pentachlorophenol and its salts and esters | 87-86-5**, 131-52-2, 27735-64-4, 3772-94-9 | Pesticide* & Industrial | Japan | Asia | XLIV |
| Perfluorooctanoic Sulphonate (PFOS), its salts and perfluorooctanesulfonyl fluoride (PFOSE) | 2795-39-3; 70225-14-8; 29081-56-9; 29457-72-5; 307-35-7 | Pesticide | China | Asia | XLV |
| Perfluorooctanoic acid (PFOA) and its salts and esters | 335-67-1, 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 376-27-2, 3108-24-5 | Industrial | Norway | Europe | XLI |
| Permethrin | 52645-53-1 | Pesticide | Syrian Arab Republic | Near East | XXXII |
| Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)- | 3846-71-7 | Industrial | Japan | Asia | XXVII |
| Phenthoate | 2597-03-7 | Pesticide | Malaysia | Asia | XLIV |
| Phorate | 298-02-2 | Pesticide | Brazil | Latin America and the Caribbean | XLV |
| Phorate | 298-02-2 | Pesticide | Canada | North America | XXVIII |
| Phorate | 298-02-2 | Pesticide | Thailand | Asia | XIV |
| Phosalone | 2310-17-0 | Pesticide | European Union | Europe | XXVII |
| Phosphamidon | 13171-21-6 | Pesticide | Brazil | Latin America and the Caribbean | XX |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|--|---|------------------------|----------------|---------------------------------|---------------------------|
| Phosphamidon | 13171-21-6 | Pesticide | Côte d'Ivoire | Africa | XX |
| Phosphamidon | 13171-21-6 | Pesticide & Industrial | Japan | Asia | XX |
| Phosphamidon | 13171-21-6 | Pesticide | Panama | Latin America and the Caribbean | XIX |
| Phosphamidon | 13171-21-6 | Pesticide | Thailand | Asia | XIV |
| Polychlorinated naphthalenes (Naphthalene polychlorinated) | 70776-03-3 | Industrial | Canada | North America | XXXVIII |
| Polychlorinated naphthalenes (Naphthalene polychlorinated) | 28699-88-9, 1321-65-9, 1335-88-2, 1321-64-8, 1335-87-1, 32241-08-0, 2234-13-1 | Industrial | Japan | Asia | XLIV |
| Polychloroterpenes | 8001-50-1 | Pesticide | Thailand | Asia | XX |
| Procymidone | 32809-16-8 | Pesticide | European Union | Europe | XXXVII |
| Profenofos | 41198-08-7 | Pesticide | Malaysia | Asia | XLIV |
| Propachlor | 1918-16-7 | Pesticide | European Union | Europe | XXXIII |
| Propachlor | 1918-16-7 | Pesticide | Norway | Europe | XXVI |
| Propanil | 709-98-8 | Pesticide | European Union | Europe | XXXIX |
| Propargite | 2312-35-8 | Pesticide | European Union | Europe | XXXIX |
| Propisochlor | 86763-47-5 | Pesticide | European Union | Europe | XXXVI |
| Propoxycarbazone sodium | 145026-81-9 | Pesticide | Norway | Europe | XV |
| Propylbromoacetate | 35223-80-4 | Industrial | Latvia | Europe | XX |
| Prothiofos | 34643-46-4 | Pesticide | Malaysia | Asia | XLIV |
| Prothoate | 2275-18-5 | Pesticide | Thailand | Asia | XIV |
| Pymetrozine | 123312-89-0 | Pesticide | Norway | Europe | XXXIX |
| Pyrazophos | 13457-18-6 | Pesticide | European Union | Europe | XIII |
| Pyrinuron | 53558-25-1 | Pesticide | Thailand | Asia | XX |
| Quinalphos | 13593-03-8 | Pesticide | Malaysia | Asia | XLIV |
| Quintozene | 82-68-8 | Pesticide | European Union | Europe | XV |
| Quintozene | 82-68-8 | Pesticide | Romania | Europe | XX |
| Quintozene | 82-68-8 | Pesticide | Switzerland | Europe | XX |
| Schradan | 152-16-9 | Pesticide & Industrial | Japan | Asia | XX |
| Schradan | 152-16-9 | Pesticide | Thailand | Asia | XIV |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|---|--|------------------------|-------------------|---------------------------------|---------------------------|
| Short-chain chlorinated paraffins [Chlorinated alkanes that have the molecular formula $C_nH_xCl(2n+2-x)$ in which $10 \leq n \leq 13$] | 1002-69-3, 104948-36-9, 108171-26-2, 112-52-7, 2162-98-3, 3922-28-9, 51990-12-6, 61788-76-9, 63449-39-8, 68188-19-2, 68476-48-2, 68606-33-7, 68911-63-7, 68920-70-7, 68938-42-1, 68955-41-9, 68990-22-7, 71011-12-6, 72854-22-9, 73138-78-0, 84082-38-2, 84776-06-7, 85422-92-0, 85535-84-8, 85536-22-7, 85681-73-8, 97553-43-0, 97659-46-6 | Industrial | Canada | North America | XXXVIII |
| Short-chain chlorinated paraffins | 85535-84-8 | Industrial | Norway | Europe | XV |
| Simazine | 122-34-9 | Pesticide | European Union | Europe | XXI |
| Simazine | 122-34-9 | Pesticide | Norway | Europe | XIII |
| Sodium arsenite | 7784-46-5 | Pesticide | Netherlands | Europe | XIV |
| Sodium fluoroacetate | 62-74-8 | Pesticide | Cuba | Latin America and the Caribbean | XXVIII |
| Sodium trichloroacetate | 650-51-1 | Pesticide | Netherlands | Europe | XIV |
| Sulfosulfurone | 141776-32-1 | Pesticide | Norway | Europe | XV |
| Sulfotep | 3689-24-5 | Pesticide | Thailand | Asia | XIV |
| Tar acids, coal, crude | 65996-85-2 | Industrial | Latvia | Europe | XX |
| Tecnazene | 117-18-0 | Pesticide | European Union | Europe | XV |
| Tetraethyl pyrophosphate (TEPP) | 107-49-3 | Pesticide & Industrial | Japan | Asia | XX |
| Terbufos | 13071-79-9 | Pesticide | Canada | North America | XXVIII |
| Tetrachlorobenzene | 12408-10-5 | Industrial | Canada | North America | XXVIII |
| Tetrachlorobenzene | 634-66-2 | Industrial | Canada | North America | XXVIII |
| Tetrachlorobenzene | 634-90-2 | Industrial | Canada | North America | XXVIII |
| Tetrachlorobenzene | 95-94-3 | Industrial | Canada | North America | XXVIII |
| Thallium acetate | 563-68-8 | Industrial | Republic of Korea | Asia | XX |
| Thallium nitrate | 10102-45-1 | Industrial | Republic of Korea | Asia | XX |

| Chemical name | CAS number | Category | Country | Region | Published in PIC Circular |
|--|---|------------|-------------------|---------------------------------|---------------------------|
| Thallium sulphate | 7446-18-6 | Industrial | Republic of Korea | Asia | XX |
| Thallium sulphate | 7446-18-6 | Pesticide | Thailand | Asia | XX |
| Thiabendazole | 148-79-8 | Pesticide | Norway | Europe | XIII |
| Thiodicarb | 59669-26-0 | Pesticide | European Union | Europe | XXVII |
| Triazophos | 24017-47-8 | Pesticide | Cabo Verde | Africa | XLI |
| Triazophos | 24017-47-8 | Pesticide | Chad | Africa | XLI |
| Triazophos | 24017-47-8 | Pesticide | Gambia | Africa | XLI |
| Triazophos | 24017-47-8 | Pesticide | Malaysia | Asia | XLIV |
| Triazophos | 24017-47-8 | Pesticide | Mauritania | Africa | XLI |
| Triazophos | 24017-47-8 | Pesticide | Niger | Africa | XLI |
| Triazophos | 24017-47-8 | Pesticide | Senegal | Africa | XLI |
| Triazophos | 24017-47-8 | Pesticide | Togo | Africa | XLI |
| Tribufos | 78-48-8 | Pesticide | Australia | Southwest Pacific | XII |
| Tributyl tetradecyl phosphonium chloride | 81741-28-8 | Industrial | Canada | North America | XIII |
| Tributyltin compounds | 56-35-9 | Industrial | Republic of Korea | Asia | XX |
| Tributyltin oxide | 56-35-9 | Industrial | Japan | Asia | XXI |
| Tributyltins | 1461-22-9, 1983-10-4, 2155-70-6, 4027-18-3, 4342-30-7, 56-35-9, 67701-37-5, 688-73-3 | Industrial | Canada | North America | XXXVIII |
| Trichlorfon | 52-68-6 | Pesticide | Brazil | Latin America and the Caribbean | XXXIV |
| Trichlorfon | 52-68-6 | Pesticide | European Union | Europe | XXX |
| Trichlorfon | 52-68-6 | Pesticide | Togo | Africa | XLII |
| Trifluralin | 1582-09-8 | Pesticide | European Union | Europe | XXXVI |
| Tris-(1-aziridinyl)phosphine oxide | 545-55-1 | Industrial | Latvia | Europe | XX |
| Tris-(1-aziridinyl)phosphine oxide | 545-55-1 | Industrial | Switzerland | Europe | XXIII |
| Vinclozolin | 50471-44-8 | Pesticide | Jordan | Near East | XVIII |
| Vinclozolin | 50471-44-8 | Pesticide | Norway | Europe | XIII |
| Zineb | 12122-67-7 | Pesticide | Ecuador | Latin America and the Caribbean | XX |

* The chemical is listed in Annex III under this category.

** The chemical is listed in Annex III under this CAS number.

Notifications of final regulatory action for chemicals not listed in Annex III**PART B****NOTIFICATIONS OF FINAL REGULATORY ACTION FOR CHEMICALS NOT LISTED
IN ANNEX III AND VERIFIED AS NOT CONTAINING ALL THE INFORMATION
REQUIRED IN ANNEX I TO THE CONVENTION**

| Chemical name | CAS | Category | Country | Region | Published in PIC Circular |
|--|------------|-----------------|----------------|------------------------------------|--------------------------------------|
| Acrylonitrile | 107-13-1 | Pesticide | Saudi Arabia | Near East | XXVII |
| 1,2-dichloropropane | 78-87-5 | Pesticide | Saudi Arabia | Near East | XXXII |
| 1,4-dichlorobenzene | 106-46-7 | Pesticide | Israel | Europe | XXXV |
| 1-Bromo-2-chloroethane | 107-04-0 | Pesticide | Saudi Arabia | Near East | XXXII |
| 2-(2,4,5-trichlorophenoxy)ethyl 2,2dichloropropanoate | 136-25-4 | Pesticide | Saudi Arabia | Near East | XXVII |
| 2,4,5-TP (Silvex; Fenoprop) | 93-72-1 | Pesticide | Saudi Arabia | Near East | XXXII |
| Acephate | 30560-19-1 | Pesticide | Oman | Near East | XXXIX |
| Acrolein | 107-02-8 | Pesticide | Saudi Arabia | Near East | XXXII |
| Amitraz | 33089-61-1 | Pesticide | Oman | Near East | XXXIX |
| Amitrole | 61-82-5 | Pesticide | Oman | Near East | XXXIX |
| Amitrole | 61-82-5 | Pesticide | Saudi Arabia | Near East | XXVII |
| Atrazine | 1912-24-9 | Pesticide | Oman | Near East | XXXIX |
| Azinphos ethyl | 2642-71-9 | Pesticide | Saudi Arabia | Near East | XXVII |
| Bendiocarb | 22781-23-3 | Pesticide | Saudi Arabia | Near East | XXVII |
| Benomyl | 17804-35-2 | Pesticide | Oman | Near East | XXXIX |
| Benomyl | 17804-35-2 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Bifenthrin | 82657-04-3 | Pesticide | Oman | Near East | XXXIX |
| Bromadiolone | 28772-56-7 | Pesticide | Oman | Near East | XXXIX |
| Bromadiolone | 28772-56-7 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Bromofos-ethyl | 4824-78-6 | Pesticide | Oman | Near East | XXXIX |
| Bromofos-ethyl | 4824-78-6 | Pesticide | Saudi Arabia | Near East | XXVII |
| Cadmium | 7440-43-9 | Pesticide | Thailand | Asia | XX |
| Cadusafos | 95465-99-9 | Pesticide | Oman | Near East | XXXIX |
| Calcium cyanide | 592-01-8 | Pesticide | Saudi Arabia | Near East | XXVII |
| Captan | 133-06-2 | Pesticide | Oman | Near East | |
| Captan | 133-06-2 | Pesticide | Saudi Arabia | Near East | XXVII |
| Carbaryl | 63-25-2 | Pesticide | El Salvador | Latin America and the Caribbean | XXVII |
| Carbaryl | 63-25-2 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Carbofuran | 1563-66-2 | Pesticide | Jordan | Near East | XVIII |
| Carbofuran | 1563-66-2 | Pesticide | Oman | Near East | XXXIX |
| Carbofuran | 1563-66-2 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Chloranil | 118-75-2 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Chloranil | 118-75-2 | Pesticide | Saudi Arabia | Near East | XXXII |
| Chlordecone | 143-50-0 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Chlordecone | 143-50-0 | Pesticide | Saudi Arabia | Near East | XXXII |
| Chlormephos | 24934-91-6 | Pesticide | Oman | Near East | XXXIX |

| Chemical name | CAS | Category | Country | Region | Published in PIC Circular |
|-----------------------------|------------|------------|--------------|---------------------------------|---------------------------|
| Chlormephos | 24934-91-6 | Pesticide | Saudi Arabia | Near East | XXVII |
| Chloropicrin | 76-06-2 | Pesticide | Oman | Near East | XXXIX |
| Chloropicrin | 76-06-2 | Pesticide | Saudi Arabia | Near East | XXVII |
| Chlorothalonil | 1897-45-6 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Chlorpyrifos | 2921-88-2 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Chlorthiophos | 60238-56-4 | Pesticide | Saudi Arabia | Near East | XXVII |
| Chrysotile (white asbestos) | 12001-29-5 | Industrial | El Salvador | Latin America and the Caribbean | XXVII |
| Copper arsenate hydroxide | 16102-92-4 | Pesticide | Thailand | Asia | XX |
| Cyanazine | 21725-46-2 | Pesticide | Oman | Near East | XXXIX |
| Cyanophos | 2636-26-2 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Cycloheximide | 66-81-9 | Pesticide | Saudi Arabia | Near East | XXVII |
| Cyhexatin | 13121-70-5 | Pesticide | Saudi Arabia | Near East | XXXII |
| Daminozide | 1596-84-5 | Pesticide | Saudi Arabia | Near East | XXXII |
| DDD | 72-54-8 | Pesticide | Saudi Arabia | Near East | XXVII |
| Demeton-S-methyl | 919-86-8 | Pesticide | Oman | Near East | XXXIX |
| Demeton-S-methyl | 919-86-8 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Dialifos | 10311-84-9 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Dibromochloropropane (DBCP) | 96-12-8 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Dibromochloropropane (DBCP) | 96-12-8 | Pesticide | Saudi Arabia | Near East | XXVII |
| Dichlorvos | 62-73-7 | Pesticide | Saudi Arabia | Near East | XXVII |
| Diclofop-methyl | 51338-27-3 | Pesticide | Saudi Arabia | Near East | XXXII |
| Dicofol | 115-32-2 | Pesticide | Oman | Near East | XXXIX |
| Dicofol | 115-32-2 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Dicrotophos | 141-66-2 | Pesticide | Oman | Near East | XXXIX |
| Dicrotophos | 141-66-2 | Pesticide | Saudi Arabia | Near East | XXVII |
| Diflubenzuron | 35367-38-5 | Pesticide | Oman | Near East | XXXIX |
| Dimefox | 115-26-4 | Pesticide | Oman | Near East | XXXIX |
| Dimefox | 115-26-4 | Pesticide | Saudi Arabia | Near East | XXVII |
| Dimethoate | 60-51-5 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Dimethylarsinic acid | 75-60-5 | Pesticide | Israel | Europe | XXXV |
| Dinitramine | 29091-05-2 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Dinitramine | 29091-05-2 | Pesticide | Saudi Arabia | Near East | XXVII |
| Disulfoton | 298-04-4 | Pesticide | Oman | Near East | XXXIX |
| Disulfoton | 298-04-4 | Pesticide | Saudi Arabia | Near East | XXVII |
| Endrin | 72-20-8 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Endrin | 72-20-8 | Pesticide | Nepal | Asia | XLII |
| Endrin | 72-20-8 | Pesticide | Saudi Arabia | Near East | XXVII |
| EPN | 2104-64-5 | Pesticide | Saudi Arabia | Near East | XXVII |
| Erbon | 136-25-4 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Erbon | 136-25-4 | Pesticide | Saudi Arabia | Near East | XXXII |
| Ethephon | 16672-87-0 | Pesticide | Saudi Arabia | Near East | XXVII |

| Chemical name | CAS | Category | Country | Region | Published in PIC Circular |
|---------------------------|-------------|-----------|--------------|---------------------------------|---------------------------|
| Ethoprophos | 13194-48-4 | Pesticide | Oman | Near East | XXXIX |
| Ethoprophos | 13194-48-4 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Ethylan | 72-56-0 | Pesticide | Saudi Arabia | Near East | XXVII |
| Ethylmercury chloride | 107-27-7 | Pesticide | Armenia | Europe | XII |
| Fenamiphos | 22224-92-6 | Pesticide | Oman | Near East | XXXIX |
| Fenamiphos | 22224-92-6 | Pesticide | Saudi Arabia | Near East | XXVII |
| Fenthion | 55-38-9 | Pesticide | Oman | Near East | XXXIX |
| Fentin acetate | 115-90-2 | Pesticide | Saudi Arabia | Near East | XXVII |
| Fipronil | 120068-37-3 | Pesticide | Oman | Near East | XXXIX |
| Flucythrinate | 70124-77-5 | Pesticide | Oman | Near East | XXXIX |
| Fluorine | 7782-41-4 | Pesticide | Saudi Arabia | Near East | XXVII |
| Folpet | 133-07-3 | Pesticide | Saudi Arabia | Near East | XXVII |
| Fonofos | 944-22-9 | Pesticide | Oman | Near East | XXXIX |
| Fonofos | 944-22-9 | Pesticide | Saudi Arabia | Near East | XXVII |
| Formothion | 2540-82-1 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Fosthietan | 21548-32-3 | Pesticide | Oman | Near East | XXXIX |
| Fosthietan | 21548-32-3 | Pesticide | Saudi Arabia | Near East | XXVII |
| Granosan M | 2235-25-8 | Pesticide | Armenia | Europe | XII |
| Hexaethyl tetra phosphate | 757-58-4 | Pesticide | Saudi Arabia | Near East | XXVII |
| Hydrogen cyanide | 74-90-8 | Pesticide | Saudi Arabia | Near East | XXVII |
| Lead arsenate | 7784-40-9 | Pesticide | Togo | Africa | XLII |
| Lead arsenate | 7784-40-9 | Pesticide | Thailand | Asia | XX |
| Leptophos | 21609-90-5 | Pesticide | Saudi Arabia | Near East | XXVII |
| Linuron | 330-55-2 | Pesticide | Oman | Near East | XXXIX |
| Mancozeb | 8018-01-7 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Mephosfolan | 950-10-7 | Pesticide | Oman | Near East | XXXIX |
| Mephosfolan | 950-10-7 | Pesticide | Saudi Arabia | Near East | XXVII |
| Metham sodium | 137-42-8 | Pesticide | Saudi Arabia | Near East | XXVII |
| Methidathion | 950-37-8 | Pesticide | Oman | Near East | XXXIX |
| Methiocarb | 2032-65-7 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Methomyl | 16752-77-5 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Methoxychlor | 72-43-5 | Pesticide | Oman | Near East | XXXIX |
| Methoxychlor | 72-43-5 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Methyl parathion | 298-00-0 | Pesticide | Cameroon | Africa | XVIII |
| Mevinphos | 7786-34-7 | Pesticide | Oman | Near East | XXXIX |
| Mevinphos | 7786-34-7 | Pesticide | Saudi Arabia | Near East | XXVII |
| Mirex | 2385-85-5 | Pesticide | El Salvador | Latin America and the Caribbean | XXVII |
| Mirex | 2385-85-5 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Mirex | 2385-85-5 | Pesticide | Nepal | Asia | XLII |
| Mirex | 2385-85-5 | Pesticide | Peru | Latin America and the Caribbean | XXXVI |
| Mirex | 2385-85-5 | Pesticide | Saudi Arabia | Near East | XXVII |
| Monuron | 150-68-5 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |

| Chemical name | CAS | Category | Country | Region | Published in PIC Circular |
|---|------------|-----------|--------------|---------------------------------|---------------------------|
| Nicotine | 54-11-5 | Pesticide | Oman | Near East | XXXIX |
| Nitrofen | 1836-75-5 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Oxydemeton-methyl | 301-12-2 | Pesticide | Oman | Near East | XXXIX |
| Oxydemeton-methyl | 301-12-2 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Paraquat | 4685-14-7 | Pesticide | Saudi Arabia | Near East | XXVII |
| Paraquat dichloride | 1910-42-5 | Pesticide | Oman | Near East | XXXIX |
| Phenylmercury acetate | 62-38-4 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Phorate | 298-02-2 | Pesticide | Saudi Arabia | Near East | XXVII |
| Phosfolan | 947-02-4 | Pesticide | Saudi Arabia | Near East | XXVII |
| Phosphonic diamide, p-(5-amino-3-phenyl-1H-1,2,4-triazol-1-yl)-N,N,N',N'-tetramethyl- | 1031-47-6 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Polychloroterpenes | 8001-50-1 | Pesticide | Saudi Arabia | Near East | XXVII |
| Propargite | 2312-35-8 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Propoxur | 114-26-1 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Prothoate | 2275-18-5 | Pesticide | Saudi Arabia | Near East | XXVII |
| Quintozene | 82-68-8 | Pesticide | Japan | Asia | XX |
| Quintozene | 82-68-8 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Quintozene | 82-68-8 | Pesticide | Oman | Near East | XXXIX |
| Safrole | 94-59-7 | Pesticide | Thailand | Asia | XX |
| Schradan | 152-16-9 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Schradan | 152-16-9 | Pesticide | Saudi Arabia | Near East | XXVII |
| Simazine | 122-34-9 | Pesticide | Oman | Near East | XXXIX |
| Simazine | 122-34-9 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Sodium cyanide | 143-33-9 | Pesticide | Saudi Arabia | Near East | XXVII |
| Sodium dimethylarsinate | 124-65-2 | Pesticide | Israel | Europe | XXXV |
| Sodium fluoroacetate | 62-74-8 | Pesticide | Mexico | Latin America and the Caribbean | XXVIII |
| Sodium fluoroacetate | 62-74-8 | Pesticide | Saudi Arabia | Near East | XXVII |
| Tefluthrin | 79538-32-2 | Pesticide | Oman | Near East | XXXIX |
| TEPP | 107-49-3 | Pesticide | Saudi Arabia | Near East | XXVII |
| Terbufos | 13071-79-9 | Pesticide | Saudi Arabia | Near East | XXVII |
| Tetradifon | 116-29-0 | Pesticide | Saudi Arabia | Near East | XXXVIII |
| Thallium sulphate | 7446-18-6 | Pesticide | Saudi Arabia | Near East | XXVII |
| Thionazin | 297-97-2 | Pesticide | Saudi Arabia | Near East | XXVII |
| Zineb | 12122-67-7 | Pesticide | Oman | Near East | XXXIX |
| Zineb | 12122-67-7 | Pesticide | Saudi Arabia | Near East | XXXVIII |

APPENDIX VI**INFORMATION EXCHANGE ON CHEMICALS RECOMMENDED BY THE CHEMICAL REVIEW COMMITTEE FOR LISTING IN ANNEX III BUT FOR WHICH THE CONFERENCE OF THE PARTIES HAS YET TO TAKE A FINAL DECISION**

In line with decisions RC-3/3, RC-4/4, RC-6/8, RC-8/6 and RC-8/7 of the Conference of the Parties and paragraph 1 of Article 14 of the Convention, appendix VI has been developed to facilitate information exchange on chemicals that have been recommended for listing in Annex III to the Convention by the Chemical Review Committee but for which the Conference of the Parties has yet to take a final decision.

This appendix consists of two parts:

Part A provides a reference to the information that has been provided by Parties on national decisions concerning the management of these chemicals.

Part B is a list of decisions on the future import of these chemicals that have been submitted by Parties. These import decisions are circulated for information only and do not constitute part of the legally binding PIC procedure.

On the Rotterdam Convention website, in the section “Chemicals recommended for listing”, further information on these chemicals can be found, including the notifications of final regulatory action and supporting documentation available to the Chemical Review Committee and the draft decision guidance documents.

PART A

**NATIONAL DECISIONS CONCERNING THE MANAGEMENT OF
THE CHEMICALS RECOMMENDED BY THE CHEMICAL REVIEW COMMITTEE
FOR LISTING IN ANNEX III BUT FOR WHICH THE CONFERENCE OF THE PARTIES
HAS YET TO TAKE A FINAL DECISION**

| Chrysotile asbestos (CAS number: 12001-29-5) | | |
|---|----------------------------------|---|
| PARTY | PIC CIRCULAR | LINK |
| European Union | PIC Circular XXVII, June 2008 | http://www.pic.int/TheConvention/Chemicals/RecommendedtoCOP/Chrysotileasbestos/tabid/1186/language/en-US/Default.aspx |
| Switzerland | PIC Circular XXVI, December 2007 | http://www.pic.int/TheConvention/Chemicals/RecommendedtoCOP/Chrysotileasbestos/tabid/1186/language/en-US/Default.aspx |

PART B

**IMPORT DECISIONS ON
THE CHEMICALS RECOMMENDED BY THE CHEMICAL REVIEW COMMITTEE
FOR LISTING IN ANNEX III BUT FOR WHICH THE CONFERENCE OF THE PARTIES
HAS YET TO TAKE A FINAL DECISION**

| Chrysotile asbestos (CAS number: 12001-29-5) | | |
|---|---|----------------------|
| PARTY | IMPORT DECISION | DATE RECEIVED |
| European Union | <p><u>Consent to import only subject to specified conditions:</u></p> <p>The manufacture, placing on the market and use of chrysotile asbestos fibres and of articles containing these fibres added intentionally is prohibited. However, Member States may exempt the placing on the market and use of diaphragms containing chrysotile for existing electrolysis installations until they reach the end of their service life, or until suitable asbestos-free substitutes become available, whichever is the sooner. By 1 June 2011 Member States making use of this exemption shall provide a report to the Commission. The Commission shall ask the European Chemicals agency to prepare a dossier with a view to prohibit the placing on the market and use of diaphragms containing chrysotile.</p> <p><u>Administrative measure:</u></p> <p>The chemical was prohibited (with the one limited derogation referred to section 5.3 above) by Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the registration, evaluation, authorisation and restriction of chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Official Journal of the European Communities (OJ) L396 of 30 December 2006, p. 1) as amended by Commission Regulation (EC) No 552/2009 of 22 June 2009 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII (OJ L 164 of 22 June 2009, p. 7).</p> | 6 October 2009 |

| Liquid formulations (emulsifiable concentrate and soluble concentrate) containing paraquat dichloride at or above 276 g/L, corresponding to paraquat ion at or above 200 g/L | | |
|---|--|----------------------|
| PARTY | IMPORT DECISION | DATE RECEIVED |
| Qatar | <p><u>No consent to import</u></p> <p><u>Administrative measure:</u></p> <p>(*) Ministry of Environment to perform all the tasks and actions to protect the environment in the country, According to the law No. 30 of 2002 Article (26). Prohibiting the import or handling or transport of hazardous materials, without authorization from the competent administrative authority, and article (29) or law No. 30 of 2002 Provides (spray or prohibited the use of pesticides or other chemical compounds for agriculture, public health or other purposes but after taking into account the requirements and checks and balances defined by the regulations, to ensure that human, animal or plant or watercourses or other components of the environment directly or indirectly on the spot or future adverse impacts of pesticides or chemical compounds (*)Law No. 24 of 2010 Promulgating the Law (Regulation) of Pesticides in the States of the Cooperation Council for the Arab State of the Gulf.</p> | 2 November 2015 |