



Kamenice 126/3, 625 00 Brno, Czech Republic
Tel.: +420 549 491 475, Mobile: +420 602 753 138
Fax: +420 549 492 840
E-mail: holoubek@recetox.muni.cz
<http://recetox.muni.cz/>

The Second Annual Periodic Report

Reporting period: I – XII/2004

Report issued on: 31/01/2005

Contract number: EVK1-CT-2002-80012

Project start date and duration: 12/02/2003; 3 years

EU funding: 220 000 €

Project title:

Centre of Excellence for Environmental Chemistry and Ecotoxicology (RECETOX)



Key words:

Environmental chemistry, ecotoxicology, scientific networks

Coordinator: Prof. Dr. Ivan Holoubek

SECTION 1

Activity progress report

Objectives of the project

All WPs of the Project were prepared as a contribution of RECETOX to the better integration of NAS to the European research area. Project is basically oriented to the organisation of joint activities which can be a base for better and more effective contacts, relationships and increasing co-operation among the scientists and institutions in European area (workshops, conferences, summer school, networks, exchange visits, common projects).

Scientific results of the projects (contributions from the Workshops, Conferences and Summer School) will be disseminated through publication in scientific journals and presentations at appropriate international conferences. A project WWW page was created, maintained and regularly updated for dissemination of the project's progress, findings and publications. It provides links to local web pages of the RECETOX networks participants and other national and international governmental and non-governmental (scientific, commercial and non-profit) organisations active in these fields.

Based on RECETOX long-term research and scientific activities in the field of environmental chemistry, ecotoxicology and ecological risk assessment and long-term international co-operations, it was planned during the first year of project as a part of the European support for the integration of NAS in the European research areas the following activities (packages of project):

- Organization of scientific networks focused on the global and regional problems of persistent, bioaccumulative and toxic substances:
 - The first network on the European level
 - The second one on the Central and Eastern European levels and with special attention to this European sub-region during the period of accession
- As a part of these networks we will organize a lot of activities such as:
 - Special workshop which was focused on the specific topics of environmental chemistry, ecotoxicology and risk assessment of PBTs, basically on the topics from environmental chemistry and ecotoxicology
- Exchange of staff, PhD. and postdoctoral students between RECETOX and institutions in all countries of European region
- The study describing the problem of PBTs in CEE countries as a results of very broad scientific co-operation in the CEECs region
- The development of special environmental databases of PBTs

Objectives of the reporting period

- Active organization of all scientific networks focused on the global and regional problems of persistent, bioaccumulative and toxic substances, which were established during the first year of project
 - As a part of these networks to organize one workshop focused on Ice photochemistry and participation on common organization of conference from the field of environmental chemistry together with FECS (Federation of European Chemical Societies), Division Environmental Chemistry
- Exchange of staff, PhD. and postdoctoral students between RECETOX and institutions in all countries of European region
- The study describing the problem of PBTs in CEE countries as a results of very broad scientific co-operation in the CEECs region
- The development of special environmental databases of PBTs

Scientific/technical progress made in different work packages according to the planned time schedule

COMPONENTS/ACTIVITES PLAN/REALIZATION	MONTHS AFTER SIGNATURE OF PROJECT DOCUMENT										
	13	14	15	16	17	18	19	20	21	22	23
Meetings of Scientific Committee – electronic conferences			Yes			Yes			Yes		
Meetings of Scientific Advisory Board - electronic conferences			Yes			Yes			Yes		
Organization of Workshop											
	Preparation phase								Realization	3 rd Preparation	
Organization of Conferences											
	Preparation phase							Realization	Preparation of the 2 nd		
Organization of Summer School											
	Preparation phase										
PhD Study											
	Continuously										
Scientific Network on PBT Chemicals (PBTs)											
	Continuously										
Scientific Network on PBT Chemicals (PBTs) in the (CEECs)											
	Continuously										
Czech National Environmental Chemistry and Ecotoxicology Network											
	Continuously, basically as a activities of Czech National Pops Centre										
Study visits											
	Continuously										
Study “PBTs in the CEECs”											
	Continuously, preparaty phase										
Special Database											
	Continuously developed as a parts of research project and diploma and PhD thesis										

Work Package No. ¹	Work package title	Mannpower		Financial resources			
		Planning	Realization	Planning	Realization	EU contribution requested ³	
						Planning	Realization
1	Management and QA	4	4	8 000	8 000	6 075	6 075
2	Special workshops	4	4	14 228	14 228	14 228	14 228
3	Thematic conferences	4	4	5 500	5 500	5 500	5 500
4	Summer school	1	1	1 000	1 000	1 000	1 000
5	Ph.D. studies	1	1	0	1 000	0	0
6	International PBTs Network	1	1	1 000	1 000	0	0
7	PBTs Network in CEE countries	1	1	1 000	1 000	0	0
8	Czech Environmental chemistry and Ecotoxicology Network	1	1	1 000	1 000	0	0
9	Study visits			7 500	7 500	7 500	7 500
10	Study of PBTs in CEECs	3	3	3 000	3 000	0	0
11	Special databases	3	3	3 000	3 000	0	0
12	Increasing participation in EU projects	0	1	1 000	1 000	0	0
	Personnel	37	37/27 EU	45 000	44 915	34 915	34 915 - in WPs 1-5
	Travel				20 500		18 602,15 - in WPs 1-3, 9
	Overheads					2 988	16 032.63
	Adjustments						
	Total					68 500	68 500 + adjustments = 96 197,63 – see details in Summary of allowable costs
							The all disbalances will be solved in the third year of project

Milestones and deliverables obtained
Deviations from the work plan or/time schedule and their impact to the project

Deliverable No.	Deliverable title	Deliverable date (month)	Planning activities 2004	Realisation
D1.1	Progress report	24	PR will be prepared during the last month of the 2 nd year	Yes
D2.1	Organization of 2 nd workshop	22	2 nd workshop of Environmental Photochemistry will be organized during the last week of October and the first week of November. The realisation was started at December 2003. Proposed number of participants: 30	It was realized in 05-07 November 2004
D2.2	Proceedings from workshop	22	The Proceedings of abstracts will be a part of Workshop materials	No - common agreement of participants
D2.3	Website presentations of results and workshops proceedings	23	The Workshop Proceedings and presentation will be published with agreement of presenters	Yes
D2.4	Publications in special issues of scientific journals	12, 24, 36	The special issue of selected journal will be prepared as a presentation of Workshop results – journal is not finally decided.	Some selected papers will be published by selected participants
D3.1	Organization of 2 conferences	21, 34	The ENCHEM Conferences will be co-organized by RECETOX as a part of FECS Conference in Bordeaux, France, 29/08-01/09/2004 The ECOTOX Conference will be organized in September 2005 in Brno. The preparation of both was started at December 2003.	Yes
D3.2	Conference proceedings + CD	21, 34	It will be prepared based on the plan.	It was managed by FECS and University of Bordeaux
D3.3	Website presentation of the conferences	21, 34		
D3.4	Publications in special issues of scientific journals	25, 39		
D4.1	Organization of the summer school	30	The 1 st Summer School in Environmental Chemistry and Ecotoxicology will be organized during the summer 2005, the time and organisation will be prepared during the spring 2004, when the main part of potential lectures will be contacted.	The preparation started during summer time of 2004
D5.1	New Ph.D. programme in Environmental chemistry based on European universities networks and on the student exchange	1-36	The exchange of information and collection of experiences from European universities will continue.	Continuously
D5.2	New Ph.D. programme in Ecotoxicology based on European universities networks and on the student exchange	1-36	The exchange of information and collection of experiences from European universities will continue together with preparation of accreditation of PhD programme Ecotoxicology based on the Czech University Act	Continuously

D5.3	Study materials for both Ph.D. programmes	1-36	The first new textbook (Atmospheric Chemistry) will be prepared	Continuously
D6.1	Establishment of the European PBT scientific network	1-36	January – general information round EU, European institutions will be sent The official proposal of Net based on EC POPs Directives will be prepared	Continuously working
D6.2	Publishing of the European PBTs scientific network bulletin	1-36	Bulletin will be published twice a year – at June and December	Continuously working
D6.3	Providing the platform for scientific cooperation in Europe, new methods development and joint activities	1-36	The website communication, discussion clubs and contacts will be broadly realised	Continuously working
D7.1	Establishment of the Central and Eastern European Countries PBT scientific network	1-36	The possibilities of this form of regional co-operation will be discussed on the level of MoEs of CEECs	Continuously working
D7.2	Publishing of the Central and Eastern European Countries PBT scientific network bulletin	1-36	Bulletin will be published twice a year – at June and December	Continuously working
D7.3	Providing the platform for scientific cooperation among the Central and Eastern European Countries, for the new methods development and common activities	1-36	The website communication, discussion clubs and contacts will be broadly realised	
D8.1	Establishment of the Czech National Environmental Chemistry and Ecotoxicology scientific network	6-36	The Czech National POPs Centre was established in November 2003 as a results of National Implementation plan for implementation of Stockholm Convention in the CR. The future fate will be discussed with the Government of the CR (February - April)	Continuously working
D8.2	Providing the platform for scientific and educational cooperation among the Czech universities, workshops, conferences, common textbooks, website and multimedia presentations	6-36	These activities started during December 2003 () and will continue during the whole year 2004	Continuously working
D8.3	Common projects preparations, expertises, exchange of staff and students	6-36		Continuously working
D9.1	Exchange of students and young scientist on the base of new networks as a starting point to personal development, new methods development and future project cooperation	1-36	Preliminary 8 students and 5 staffs will travel abroad during 2004 – it will be specified on the real agreements with partners and real levels of accommodation and travels	Continuously working
D10.1	Preparation of the new PBT study in CEE countries including sources, levels, fate, exposures, effects and risks	1-36	The collection of information and data will continue during whole year	Continuously prepared

D11.1	Development of the new interactive database based on the various data sources, bioindicative and toxicological methods and approaches	1-36	The work will continue – main focused will be given to the development of expert system.	Continuously prepared
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SECTION 2

SECTION 2: Executive publishable summary, related to reporting period (12 months)

Written by the Co-ordinator, 1 to 2 pages

Contract n°	EVK1-CT-2002-80012	Reporting period:	I-XII/2004
Title	Centre of Excellence for Environmental Chemistry and Ecotoxicology (RECETOX)		
<p>Objectives:</p> <ul style="list-style-type: none"> • Active organization of all scientific networks focused on the global and regional problems of persistent, bioaccumulative and toxic substances, which were established during the first year of project <ul style="list-style-type: none"> - As a part of these networks to organize one workshop focused on Ice photochemistry and participation on common organization of conference from the field of environmental chemistry together with FECS (Federation of European Chemical Societies), Division Environmental Chemistry • Exchange of staff, PhD. and postdoctoral students between RECETOX and institutions in all countries of European region • The study describing the problem of PBTs in CEE countries as a results of very broad scientific co-operation in the CEECs region • The development of special environmental databases of PBTs <p>Scientific achievements:</p> <p>Scientific results of the projects (contributions from the Workshops, Conferences and Summer School) will be disseminated through publication in scientific journals and presentations at appropriate international conferences. A project WWW page was created, maintained and regularly updated for dissemination of the project's progress, findings and publications. It provides links to local web pages of the RECETOX networks participants and other national and international governmental and non-governmental (scientific, commercial and non-profit) organisations active in these fields.</p> <p>Based on RECETOX long-term research and scientific activities in the field of environmental chemistry, ecotoxicology and ecological risk assessment and long-term international co-operations, it was planned during the first year of project as a part of the European support for the integration of NAS in the European research areas the following activities (packages of project):</p> <p>Socio-economic relevance and policy implications:</p> <p>European, Central and Eastern European and Czech National Pops Networks play very important role in the case of implementation of the Stockholm Convention, UN ECE Convention on LRTAP and European Directives in the field of persistent organic pollutants and environmental chemistry and ecotoxicology education</p> <p>Conclusions:</p> <p>The planning activities for the second year of projects were performed successfully</p> <p>Keywords:</p> <p>RECETOX, workshops, conferences, persistent pollutants, environmental education</p>			

Publications (cumulative list)¹

Book chapters

- Holoubek, I.:** Monitoring, modelling and information system for persistent organic pollutants. In: Prastacos, P., Cortés, U., de Leon, J. L. D., Murillo, M. (Eds.): e-Environment: Progress and Challenges. Research on Computing Science. Vol. 11, 117-134, IPN CIC Mexico, 2004. ISBN: 970-36-0215-0, ISSN: 1665-9899.
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- Matoušek, J.:** Personal decontamination following terrorist chemical, biological and radiological attack. In: STOPA P. J., ORAHOVEC Z. (Eds.): Technology for Combating WMD Terrorism. Kluwer Academic Publishers, Dordrecht – Boston – London 2004, pp. 103-110. ISBN 1-4020-2682-X(PB), ISBN 1-4020-2681-1 (HB).
- Matoušek, J.:** The impact of scientific and technological development on the Chemical Weapons Convention: Threats and benefits. In: FOGELBERG P. (Ed.): Changing Threats to Global Security: Peace or Turmoil. UPI, Helsinki 2004, pp. 193-204. ISBN 951-769-161-0.
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Research papers:

- Bartoš, T., M. Škarek, P. Kosubová, P. Čupr, I. Holoubek:** Genotoxic activity of a technical toxaphene mixture and its photodegradation products in the SOS genotoxicity tests. *Mutation Research*, 2004 (accepted).
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- Gavel, A., Maršálek, B., Adámek, Z. (2004):** Viability of *Microcystis* colonies is not damaged by silver carp (*Hypophthalmichthys molitrix*) digestion. *Algological Studies* 113, Arch. Hydrobiol. Suppl. 153, 189-194.
- Gregor J., Maršálek B. (2004):** Freshwater phytoplankton quantification by chlorophyll a: a comparative study of in vitro, in vivo and in situ methods. *Water Research* 38 (3), 517-522.
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- Hofman, J., Dušek, L., Klánová, J., Bezchlebová, J., Holoubek, I. (2004):** Monitoring microbial biomass and respiration in different soils from the Czech Republic - a summary of results. *Environ. Intern.* 30, 19-30.

¹ Two copies of publications issued during reporting period should be annexed to the report, specific cases should be agreed by the Project Officer

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- Hofman, J., Sochová, I., Kammenga, J. P. (2004):** Using nematodes in soil ecotoxicology. *Soil, Plant and Environment*, submitted.
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- Machala, M., Bláha, L., Lehmler, H.-J., Plíšková, M., Májková, Z., Kapplová, P., Sovadinová, I., Vondráček, J., Mahlberg, T., Robertson, L. W. (2004):** Toxicity of hydroxylated and quinoid PCB metabolites: inhibition of gap junctional intercellular communication and activation of aryl hydrocarbon and estrogen receptors in hepatic and mammary cells. *Chem. Res. in Toxicol.* 17, 340-347.
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- Matoušek, J.:** Protection from war and peace toxic compounds XIII. Group protection - improvised shelters. *Rescue report* 7, No 1, 21 (2004), ISSN 1212-0456.
- Matoušek, J.:** Protection of inhabitants in course of time XIV. Experience with modern systems of inhabitant protection – Sweden. *Rescue report* 7, No 2, 26 (2004), ISSN 1212-0456

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- Matoušek, J.:** Protection from war and peace toxic compounds XV. Response to special situations. *Rescue report 7* No 3, 21 (2004), ISSN 1212-0456.
- Matoušek, J.:** Big accidents and disasters I. Introduction to the new series. *Rescue report 7*, No 4, 20 (2004), ISSN 1212-0456.
- Matoušek, J.:** Protection from war and peace toxic compounds XVI. Army means of primary decontamination. *Rescue report 7*, No 4, 21 (2004), ISSN 1212-0456.
- Matoušek, J.:** Big accidents and disasters II. Hidden accidents of nuclear military hardware. *Rescue report 7*, No 5, 20 (2004), ISSN 1212-0456.
- Matoušek, J.:** Protection from war and peace toxic compounds XVII. Primary decontamination in inhabitants protection. *Rescue report 7*, No 5, 21 (2004), ISSN 1212-0456.
- Matoušek, J.:** Big accidents and disasters III. Greatest mine disaster. *Rescue Report 7*, No. 6, 20 (2004), ISSN 1212-0456.
- Matoušek, J.:** Protection from war and peace toxic compounds XVIII. Perspective and improvised means of primary decontamination. *Rescue Report 7*, No 6, 21 (2004), ISSN 1212-0456.
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- Babica, P., Maršálek, B., Bláha, L., Drábková, M. (2004):** Cyanotoxins – weapon against competition? *Živa* 4/2004, 150-152.
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International conferences:

- Bartoš, T., Škarek, M., Kosubová, P., Čupr, P., Holoubek, I.:** Genotoxic activity of a technical toxaphene mixture and its photodegradation products in umuC assay, SETAC Europe 14th Annual Meeting, Prague, Czech Republic, 18. – 22.4. 2004.
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- Bláha, L., Burýšková, B., Babica, P., Vršková, D., Maršálek, B. (2004):** Toxicity and malformations induced by chlorinated paraffins and non-chlorinated alkanes in *Xenopus laevis* embryos. In SETAC-Europe 14th Annual Meeting, Book of Abstracts, Prague, CR, 7-11/5/2002, p.195.
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SECTION 3

Workpackages progress report divided per WPs

List of deliverables for WP1: Project management, QA and Synthesis		
Type of activity: Other	Relative start month: 0	Timetable: 1-36
Objectives of WP:		
Objective 1: To ensure quality and timeliness of deliverables and reports, as well as good budget management		
Objective 2: Promote co-operation among the partners and between the consortium and the User Committee		
Execution of the planned work:		
Similarly as during the first year of project, overall project management was realized on the local level personally (meetings of RECETOX management) and electronically via contacts with the members of Scientific Advisory Board and National Advisory Board including control of budget. We used for the contact with SAB and NAB various scientific meetings, workshops and conferences. All relevant information are now available on the RECETOX web site (http://www.recetox.muni.cz/coe/).		

List of deliverables for WP2: Organisation of Workshops		
Type of activity: WS	Relative start month: 1	Timetable: 1 st - 12 month of the project; 2 nd - 24; 3 rd - 36
<p>Objectives of WP:</p> <p>Based on the main research topics of RECETOX, the thematic oriented workshops will be organized with the special focus on the advances and trends in environmental chemistry and ecotoxicology.</p> <p>The workshops will be the forum for meetings and effective scientific contacts and discussions on the actual topics in the environmental chemistry, ecotoxicology and risk assessment. The scientific topics will be discussed together with the implementation of EC Directives connected with the workshop topics.</p>		
<p>Execution of the planned work:</p> <p>RECETOX together with the Department of Organic Chemistry, Faculty of Science, Masaryk University have organized the second workshop "Ice and Snow: Contamination, interaction and (photo)chemistry".</p> <p>The workshop was held in the Hotel Santon, Brno, Czech Republic, 04-06 November, 2004. This workshop was the second of a number of workshops and conferences to be seen as a part of activities of the EU-Centre of Excellence for Environmental Chemistry and Ecotoxicology and the first which was focused to one from the basic RECETOX research topics concerning to ice photochemistry of PBTs. An important part of this workshop was also discussion of future co-operation in the field of ice and snow chemistry and photochemistry.</p>		
Deliverable No.	Deliverable Title	Delivery Date
D.2.1	The organisation of the 2 nd workshop	23
D2.2	Proceedings from the 2 nd workshop	only website
D2.3	Website presentations of results and workshop proceedings	23
D2.4	Publications in special issues of scientific journals	no

WORKSHOP DETAILS

Workshop sessions:

All details concerning to the 2nd Workshop are presented on the RECETOX website:
<http://www.recetox.muni.cz/coe/index.php?id=46>

This workshop was the second of series of workshops, that one was organized by RECETOX together with the Department of Organic Chemistry (Group of the organic photochemistry), Masaryk University, Brno, CR.

This meeting provided an opportunity to invite scientists from several scientific fields (mostly from European countries) for a discussion about chemical and physical processes that can occur in natural ice and snow and that can have an important impact on the environment.

List of deliverables for WP3: Organisation of thematic conferences		
Type of activity: CF	Relative start month: 3	Timetable: 1 st - 15 month of project, 2 nd - 27
<p>Objectives of WP:</p> <p>The preparing of thematic conferences, which will be organized as a continuation of former scientific conferences with the name "TOCOEN". We would like to establish the new tradition of scientific conferences, which will be focused on the advances and trends in the field of environmental chemistry and ecotoxicology.</p> <p>The special topics will be oriented of the study of relationships between environmental pollutants and their biological effects, characterisation of natural and affected environments, the study of environmental processes, the development of new analytical tools and techniques for on field/in situ measurements, the development of new ecotoxicological tests and their application in ecological risk assessment and application of modelling approaches in environmental chemistry and ecotoxicology. Development of new environmental tools, green chemistry and environmentally friendly synthetic pathways will be part of these conference topics. The important topic of interest is also the new approaches in the teaching of environmental chemistry and ecotoxicology.</p>		
<p>Execution of the planned work:</p> <p>The first scientific conferences ENCHEM 2004 - Advances and Trends in Environmental Chemistry was organized together with FECS (Federation of European Chemical Societies, division Environmental Chemistry) and University of Bordeaux in Bordeaux, France, 28/08-01/09/2004.</p> <p>The conference presentations were published in the Conference Proceedings and will be published in selected journals (Environ. Sci. Pollut. Res.; Chemosphere; Fresenius Environ. Bull. etc.), the special proceedings will be also prepared and all workshops materials will be presented on the website of RECETOX. RECETOX presentations are summarized in the List of publications (See WP 9).</p>		
Deliverable No.	Deliverable Title	Delivery Date
D3.1	The organisation of two conferences	15/21, 27/31
D3.2	The Conference Proceedings + CD	22
D3.3	Website presentation	22
D3.4	Publications in special issues of scientific journals	30

9th FECS Conference on Chemistry and the Environment 2nd SFC meeting on Environmental Chemistry, Bordeaux, France, 29th August - 1st September 2004



The 9th FECS Conference on Chemistry and the Environment (DCE9) was held in the Convention Centre of Bordeaux from August 29th to September 1st. It was organised by the Division of Chemistry and the Environment (DCE) of the FECS under the auspices of the Federation of European Chemical Societies and the French Chemical Society (SFC) together with RECETOX. The aim of this Conference is to bring together scientists from academia, private and governmental institutes to deal with integrated approaches in all the aspects of environmental chemistry, with particular interests on

"Behaviour of Chemicals in the Environment".

The local organising committee works hard to build an impressive scientific programme which covers current and key research areas addressing environmental issues common to Europe and also many

countries across the world. Several plenary lectures were presented by prestigious key players in environmental chemistry. Short courses were also allowed state-of-art training in dedicated sessions the day before the beginning of the DCE9 Conference. Finally poster sessions set up among instrumentation exhibitors were the ideal place to meet informally other attendees, plenary lecturers and old friends.

A special attention was paid to the participation of young scientists and students to the DCE9 meeting: reduced registration rates, 4 DCE student awards for outstanding scientific presentations; travel grants for scientists from developing countries were available.

List of deliverables for WP4:		
Summer School of Environmental Chemistry and Ecotoxicology		
Type of activity: SS	Relative start month: 6	Timetable: 6 - 31, organisation 30 or 31 months
Objectives of WP:		
<p>The organisation of Summer School (summer of the third year of the project), which will be basically focused on the field methods of research in environmental chemistry, ecotoxicology and ecological risk assessment (each with some specific topics - scientific subjects, environmental compartments, region specific problems etc.). Summer School will be organized in the RECETOX, Brno, CR under umbrella of EC, RECETOX, SETAC, SECOTOX, FECS and UN ECE - see the following text.</p> <p>During the autumn the preparation of Summer School was started (see website - http://www.recetox.muni.cz/coe/index.php?id=70). Actual information will be presented on the RECETOX website round February 15.</p>		
Execution of the planned work:		
The preparation of Summer school was started during the spring time 2004.		
Deliverable No.	Deliverable Title	Delivery Date
D4.1	Organisation of summer school	30
D4.2	Textbooks for Summer School (hard copy + CD)	30
D4.3	The lectures presented will be published on RECETOX website and in scientific journals	31

Summer school **The Advances and Trends in Environmental Chemistry and Ecotoxicology of Persistent, Toxic Substances** - version to January 31, 2005

Centre RECETOX, Masaryk University Brno, Czech Republic, EU DG Research Centre of Excellence for Environmental Chemistry and Ecotoxicology will organize the Summer School of Environmental Chemistry and Ecotoxicology - Approaches to the study of relationships between environmental levels of chemicals and their biological effects with special attention to the persistent, toxic substances.

The basic scientific topic of RECETOX is the study of relationships between environmental occurrence and levels of various types of pollutants (mainly persistent, toxic substances) and their biological effects.

The special attention of this Summer School will be focused on the field experimental methods in environmental chemistry, ecotoxicology, ecological risk assessment, environmental monitoring, the study of exchange processes between environmental compartments, sampling procedures, collection of data for environmental modelling, field study of ecological stressors. The basic goal of this Summer School is application integrated monitoring/modelling approach and conception to the case of POPs.

Summer School will be held during the week from 09 to 16 July 2005, total duration 7 days and will be realized in RECETOX MU, Brno, Czech Republic, Botanical Institute AS CR Brno and Field observatory Košetice.

Summer School will be organized together with EU DG Research, EMEP MSC East, Czech Ministry of Environment and Czech Hydrometeorological Institute with co-operation with international scientific association such as the SETAC (Society for Environmental Toxicology and Chemistry), the FECS (Federation of European Chemical Societies), Division of Environmental Chemistry and the SECOTOX (Society for Ecotoxicology and Environmental Safety). The lectures will be held by leading scientists in the field of POPs.

Preliminary information on our website: <http://recetox.muni.cz/coe/index.php?id=70>.

- Monitoring of PTS – Prof. Ivan Holoubek, Prof. Kevin C. Jones
- Modelling of fate – Dr. Martin Scheringer, Dr. Gerhard Lammel, Prof. Victor Shatalov, , Dr. Andy Sweetman

Letter to:

*UN ECE, United Nations Economic Commission for
Europe
Executive Secretary of the Commission
Mr. Keith Bull
Palais des Nations
1211 Geneva 10
Switzerland*

Dear Mr. Bull,

I would like inform you that our Centre RECETOX, Masaryk University Brno, Czech Republic, EU DG Research Centre of Excellence for Environmental Chemistry and Ecotoxicology will organize the Summer School of Environmental Chemistry and Ecotoxicology - Approaches to the study of relationships between environmental levels of chemicals and their biological effects with special attention to the persistent, toxic substances.

The basic scientific topic of RECETOX is the study of relationships between environmental occurrence and levels of various types of pollutants (mainly persistent, toxic substances) and their biological effects.

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You can find preliminary information on our website: <http://recetox.muni.cz/coe/index.php?id=70>.

We would like focused one group of students on the problem of POPs modelling in co-operation with EMEP MSC East.

We would like organize this Summer School together with MSC East under umbrella of the UN ECE CLRTAP and as a contribution of our Centre, MSC East, the Czech Republic and EU DG Research to the 25th Anniversary of the CLRTAP.

I would like ask you for confirmation of the UN ECE patronage. Programme will be covered from the budget of the RECETOX and organisation will be partially covered by RECETOX and from registration fees.

I hope that this activity will contribute to ideas of the CLRTAP and will help to educate and prepare new specialists for our common programme.

Best regards

Prof. Dr. Ivan Holoubek
Director of Centre

List of deliverables for WP5: PhD Studies		
Type of activity: V4	Relative start month: 1	Timetable: 1-36
<p>Objectives of WP: PhD studies in Environmental Chemistry and Ecotoxicology - compatible with European standards Exchange of students. These exchanges will be based on the main research topics of the RECETOX and will be oriented to the main partners of the Centre such as University of Lancaster, UK, Technical University Munchen, Germany; University of Ghent, Belgium; University of Metz, France, University of Bordeaux, France and also on various scientific and research institutions such as IVL Gothenburg, Sweden, NILU, Norway or EU JRC, Ispra, Italy.</p>		
<p>Execution of the planned work:</p> <p>The PhD programme in Environmental chemistry is accredited based on the rules of Czech Ministry of Education and compared with other European universities. The very broad exchange of experiences was started especially during 1st Workshop and during the personal contacts. The exchange of students was started too - in this moment RECETOX has round 50 PhD students and two from other countries (Libya, Belarus).</p> <p>The PhD programme in Ecotoxicology is preparing now and will be ready for accreditation in the CR during 2005.</p> <p>During the 2004, the first new textbooks was be prepared (I. Holoubek: Troposheric Atmospheric) and now is a ready for printing.</p>		
Deliverable No.	Deliverable Title	Delivery Date
D5.1	The PhD programme Environmental Chemistry	36
D5.2	The PhD programme Ecotoxicology	36
D5.3	Study literature for both programmes	36

List of deliverables for WP6: European Scientific Network on Persistent, Bioaccumulative and Toxic Chemicals (PBTs)		
Type of activity: CO	Relative start month: 0	Timetable: 1-36
<p>Objectives of WP:</p> <p>Network brings together scientists to explore the potential developing and carrying out research of persistent, bioaccumulative and toxic chemicals at a European level. This scientific network aims to provide a platform for scientists working in the field of environmental chemistry, environmental toxicology, ecotoxicology and risk analysis. Innovation of Network which was established in 1996, but without any official covering.</p>		
<p>Execution of the planned work:</p> <p>The EUROPEAN NETWORK (EURPOPSNET) will bring together scientists to explore the potential developing and follow-up research of persistent, bioaccumulative and toxic chemicals at a European level. This scientific network aims to provide a platform for scientists working in the field of environmental chemistry, environmental toxicology, ecotoxicology and risk analysis. These networks will also focus on the implementations of the Stockholm Convention, POPs Protocol of CLRTAP and other EU, relevant ECV Directives and international documents and scientific work connected with these conventions.</p> <p>The main goals of EURPOPSNET on PBT chemicals are oriented on the following scientific and research topics:</p> <ul style="list-style-type: none"> ☞ the fate of PBTs in the European region - source inventories, emission/deposition processes, long-range transport, transformation processes and bioavailability of PBTs in terrestrial ecosystems, modelling of chemical fate in the environment at the local, regional and global scale, with special attention to new types of chemicals, and those for which inadequate monitoring data exist; ☞ the development of new sampling and analytical methods for PBTs; ☞ the study of effects on various types and levels of biota with special attention to study the effects of environmental mixtures and study of “unknown” effects – study of phytotoxic effects, effects on soil microbial populations and soil fauna, effects on aquatic biota, the development of mechanism-based biomarkers of a specific effect; ☞ ecological risk assessment – reliable monitoring data are needed for risk assessment and model calibrations; ☞ technologies for destruction, remediation and bioremediation of POPs ☞ exchange of information ☞ database of experts, information, etc. ☞ in the future, many other topics may potentially be recognized commonly as being important and interesting <p>The network was formally established during the 1st Workshop of CoE and the basic information concerning to this activity was sent during January 2004 to EC relevant persons (DG Research, DG Environment).</p> <p>Network organised very intensive electronic exchange (in some cases few times per week) of information concerning to actual PTS information, preparation of new projects, organisation conferences, workshops, evaluation of projects and papers etc. The basic approach to this intercommunication is focused on un-formal contacts among the European and others scientists which are working in this field. The Network(s) are use for project preparation and evaluation, preparation of common activities. Details of activities are usually discussed during RECETOX workshops and conferences or during similar activities which are organized by other institutions or associations. Based on this approach, 5 new projects and EC tender applications were prepared, two were accepted.</p>		
Deliverable No.	Deliverable Title	Delivery Date
D6.1	The establishment of network	11
D6.2	The network Bulletin publishing	Twice a year in 2005
D6.3	The organisation of common activities	Continuously

List of deliverables for WP7: Scientific Network on Persistent, Bioaccumulative and Toxic Chemicals (PBTs) in the Central and Eastern European Countries (CEECs)		
Type of activity: CO	Relative start month: 1	Timetable: 1-36
<p>Objectives of WP: Network brings together scientists to explore the potential developing and carrying out research of persistent, bioaccumulative and toxic chemicals at a Central and Eastern European region. This scientific network aims to provide a platform for scientists working in the field of environmental chemistry, environmental toxicology, ecotoxicology and risk analysis.</p>		
<p>Execution of the planned work: Central and Eastern European part (CEECPopNET) (countries of Central and Eastern Europe including Newly Independent States) of this European network will bring together scientists to explore the potential development and performance of research on persistent, bioaccumulative and toxic chemicals at a Central and Eastern European region. This scientific network aims to provide a platform for scientists working in the field of environmental chemistry, environmental toxicology, ecotoxicology and risk analysis. The main goals of Network on PBT chemicals are oriented to the following scientific and research topics:</p> <ul style="list-style-type: none"> ↺ the fate of PBTs in the Central and Eastern European region - source inventories, environmental levels, hot spots, monitoring; ↺ the study of effects on various types and levels of biota and human, epidemiological studies; ↺ ecological and human risk assessment; ↺ common strategy - using regional capacities for measurements, research, validation of sampling, analytical and testing procedures based on the European standards, remediation capacities, common approaches; ↺ technologies for destruction, remediation and bioremediation of POPs ↺ exchange of information ↺ database of experts, information, etc. ↺ help to countries of CEECs and NIS to the better integration in the European research area ↺ consultations and co-operation in the process of the implementation of Stockholm Convention and other international conventions ↺ all others mentioned above <p>The network was formally established during the 1st Workshop of CoE and the basic information concerning to this activity will be sent during January 2004 to EC relevant persons (DG Research, DG Environment) and also relevant national authorities of CEECs. The huge amount of contacts was given with governments of the CR, Slovakia, Croatia, Serbia, Armenia and Egypt.</p> <p>Network organised very intensive electronic exchange of information concerning to actual PTS information, preparation of new projects, organisation conferences, workshops, evaluation of projects and papers etc. Based on this information exchange 6 new projects were prepared, up to now we have not final evaluation. This network was used also for spreading of the environmental activities and common co-operation between the CR and other countries of the CEE region, which were based on the visits of Czech Minister of Environment (Armenia, Egypt, Serbia, Croatia). Important part of the CEECs network activities was organisation of training courses in RECETOX labs - 4 from Serbia and Montenegro, 4 from Armenia, 1 from Slovakia, 1 from Poland, 1 from India.</p> <p>Other activity was the organisation of special session concerning to POPs environmental problems in CEECs as a part of SETAC Europe Congress in Prague, 18-22 April, 2004. CoE RECETOX covered the participation of two professors there - Prof. Dr. Valeryj Petrosjan, Lomonosov State University, Moscow, Russia and Prof. Dr. Jerzy Falandysz, University of Gdansk, Poland.</p>		
Deliverable No.	Deliverable Title	Delivery Date
D7.1	The establishment of network	11
D7.2	The network Bulletin publishing	Twice a year
D7.3	The organisation of common activities	Continuously

List of deliverables for WP8: Czech National Environmental Chemistry and Ecotoxicology Network		
Type of activity: CO	Relative start month: 6	Timetable: 6-36
<p>Objectives of WP:</p> <p>Environmental chemistry and ecotoxicology are relatively young subjects of university education in the Czech Republic. The network of universities with these study programmes can be useful for development in this important field of university education.</p>		
<p>Execution of the planned work:</p> <p>Czech National Network (CZNPOPsNET) is focused on the same topics as the European network with special attention being given to POP expert activities for the Czech Government, local authorities, NGO and the public, and also with special attention being placed on educational programmes. Environmental chemistry and ecotoxicology are relatively young subjects of university education in the Czech Republic. The network of universities with these study programmes can be useful for development in this important field of university education. These activities are focused on:</p> <p>Preparation of common textbooks and books in printing and multimedia forms:</p> <ul style="list-style-type: none"> ↻ Exchange of staffs, PhD students and postdocs ↻ Organisation of common discussion tables, workshops, conferences ↻ Preparation of common projects on the national levels ↻ Expertises for governmental and local authorities ↻ Bulletin of network and common publication in national journals ↻ Public interpretation of environmental pollution problems ↻ Website presentation of common activities <p>All activities are presented on the website http://recetox.muni.cz/pops-centrum/ of Czech National POPs Centre (CZNPOPsCTR), which was established as an official form of the Czech National Network (CZNPOPsNET). The main results of the CZNPOPsCTR is the National Implementation Plan for the implementation of the Stockholm Convention in the Czech Republic (czech version - http://www.recetox.muni.cz/projekty/Unido/unido-NIP.htm; English version - http://recetox.muni.cz/projekty/Unido/unido-NIP_a.htm). The Czech Network is very active in the case of information exchange (the frequency of sending is from one to five messages per day). 5 common conferences and workshop were organized under umbrella of this Net, 8 common projects were prepared on the national level (Czech MoE, Grant Agency CR, Ministry of Education, Academy of Sciences) – 3 were successfully accepted in the common level of budget for RECETOX near to 10 mio €.</p>		
Deliverable No.	Deliverable Title	Delivery Date:
D8.1.	Establishment of the networks	6
D8.2.	Organisation of common activities	Continuously
D8.3.	Common projects, expertises etc.	Continuously

List of deliverables for WP9: Study visits		
Type of activity: VR	Relative start month: 1	Timetable: 1-36
<p>Objectives of WP:</p> <p>The visits of staffs and young scientists in other research institutions and universities round the Europe are the most important methods for their personal development and based on the personal development of employers the best and progressive development of all researcher part of the Centre.</p> <p>Personal contacts among the RECETOX and the leading European institutions in the field of environmental chemistry and ecotoxicology will play a key role in the future research development of RECETOX and its closer contacts with European scientific community.</p>		
<p>Execution of the planned work:</p> <p>Organisation of short- and long-term scientific exchange visits and stays in the Network members institutions:</p> <p>Staffs - travels and visitors</p> <p>Prof. K. C. Jones, Lancaster University - lecture Global distribution of POPs and review of Ph.D. Thesis, discussion of common project and plans of CoE, 18-20 January, 2004</p> <p>Dr. Rita Triebskorn, Tuebingen University, FRG, 22-25 March, 2004 - lecture Biomarkers as evaluation tool in ecotoxicology and discussion on common projects and exchange of students</p> <p>Prof. Ivan Holoubek - 1st International Passive Sampling Workshop and Symposium (IPSW), České Budějovice, CR, 14-17 April, 2004 - lecture</p> <p>Prof. Jiří Matoušek, ENCOS Congress, Berlin, FRG, 01-04 April, 2004 - lecture</p> <p>Prof. Jiří Matoušek - SETAC Europe Congress, Prague, CR, 18-24 April, 2004 - lecture and session chair</p> <p>Prof. Jerzy Falandysz, Gdansk University, Poland - SETAC Europe Congress, Prague, CR, 18-24 April, 2004 - lecture and session chair</p> <p>Prof. Valeryj Petrosjan, Lomonosov State University Moscow, Russia - SETAC Europe Congress, Prague, CR, 18-24 April, 2004 - lecture</p> <p>Prof. Zdeněk Šimek - Luhačovice, CR, 25-27 May, 2004, Conference Remediation Technologies II</p> <p>Prof. Ivan Holoubek - EU Workshop JOINT – Joint Technical Approach for Decontamination of Soil and Groundwater and EUGRIS - European sustainable land and groundwater management information system, Bonn, FRG, 06-08 June, 2004</p> <p>Prof. Zdeněk Šimek - CEOEC'04 : sixth Finnish-Russian seminar on chemistry and ecology of organo-element compounds in the Department of Chemistry, University of Jyväskylä, Finland, 12-18 June, 2004 - lecture</p> <p>Prof. Ivan Holoubek - 16th International Congress of Chemical and Process Engineering, CHISA 2004, Praha, CR, 25-26 August, 2004 - invited lecture</p> <p>9th Conference FECS, Bordeaux, France, 29 August - 01 September, 2004:</p> <p>Prof. Ivan Holoubek - lecture, session chair, meeting with SAB members</p> <p>Prof. Jiří Matoušek - lecture</p> <p>Prof. Zdeněk Šimek - posters</p> <p>Dr. Jana Klánová - lecture</p> <p>Prof. Dr. Ivan Holoubek, Conference Dioxin 2004, 04-10 September, 2004 - meeting with SAB members</p> <p>Prof. Dr. Ivan Holoubek, Conference First Biennial Central & Eastern European Environmental Health Conference - International Health Sciences Solving Common Problème, Praha, CR, 24-27 October, 2004 - lecture</p>		

Dr. Irena Holoubková, Conference First Biennial Central & Eastern European Environmental Health
Konference - International Health Sciences Solving Common Problème, Praha, CR, 24-27 October, 2004

Prof. Dr. Ivan Holoubek - EU Workshop JOINT – Joint Technical Approach for Decontamination of Soil and
Groundwater and EUGRIS - European sustainable land and groundwater management information system,
Vienna, Austria, 28-31 October, 2004 - participation and preparation 3rd ISSA Workshop of CoE

Prof. Dr. Ivan Holoubek - EU-LAT Workshop on e-ENVIRONMENT, University of Costa Rica, Costa Rica,
November 30 – December 03, 2004 - invited lecture and preparation of new EU projects

Students:

Jitka Bezchlebová, Vrije Universiteit, Amsterdam, The Netherlands, 18 May - 15 June, 2004, study visit

Iva Sochová, Wageningen University, The Netherlands, 30 May - 15 June, 2004, study visit

Alice Dvorská, Dlouhé Stráně, CR, 22-27 May, 2004, Conference Industrial Toxicology

Edita Mazurová, University of Tübingen, FRG, 26 April - 07 May, 2004, study visit

Tomáš Bartoš, University of Jena, FRG, 07-20 June, 2004, study visit

Marie Feldmannová, Songkla, Thailand, 2th Asia SECOTOX Congress, 17 September - 10 October, 2004 - 2
posters

This list was done by actual contacts with partner institutions and the main part was focused on the presentation
of RECETOX scientific results during various conferences and workshops. This is reason for a change of
structure which were mentioned as a plan for the 2nd year in the 1st Year Report.

Deliverable No.	Deliverable Title	Delivery Date:
D9.1	Plan for exchanges and visits	1-36

List of deliverables for WP10: Study “PBTs in the CEECs - sources, environmental levels and human exposure, fate, effects and risks”		
Type of activity: Other	Relative start month: 1	Timetable: 1-36
<p>Objectives of WP:</p> <p>The special study “Persistent Toxic Substances in the Central and Eastern European Countries - sources, environmental levels and human exposure, fate, effects and risks” will be prepared as a continuation of special RECETOX - TOCOEN & Associates report “Persistent, Bioaccumulative and Toxic Chemicals in Central and Eastern European Countries – State-of-the-art Report”</p>		
<p>Execution of the planned work:</p> <p>Collection of information and relevant papers and reports (mainly from GEF enabling activities) were intensively performed with the special attention concerning to sources, environmental levels, human exposure, studies concerning to the fate, effects and risks of PBTs in the CEECs. The results of National POPs inventories in CEECs will be collected and evaluated during the 2005 as a base for final report.</p>		
Deliverable No.	Deliverable Title	Delivery Date:
D10.1	The preparation of the study	1
D10.2	The publishing of the study (book, website)	36

List of deliverables for WP11: Development of Special Databases		
Type of activity: Other	Relative start month: 1	Timetable: 1-36
<p>Objectives of WP:</p> <p>Heterogeneity of common environmental data poses a stress on inter-branch analyses and interpretation leading frequently to very important and ethically – loaded decisions. However, many measurement techniques or even very complex processes are standardized or are to be optimised in a relatively strictly given methodological frame. In this case, expectable or given analyses can be algorithmically automatized even in several variants driven by expert judgement or interactive decision. Evaluation of exposure from available data, probabilistic risk characterization based on standard data inputs can serve as useful examples. The main presumption for development of such software tools is definition of input data (although very complex), standard methodology and already given mathematical consensus on data evaluation. Proposed Centre has important software developing activities in two fields: (1) expert system analysing data from various toxicity tests on dose-response principle according to given protocol, and (2) complex expert system for ecological risk assessment based on methodologically outlined scenarios for different types of environmental situation. These software products seem to be crucial in effective and controlled education of a wide spectrum of specialists in this field and as a tool for standardization and control over the process.</p>		
<p>Execution of the planned work:</p> <p>The second upgrade, innovation and improvement of environmental and health risk assessment lectures were/is performed.</p> <p>Existing toxicology and Ecotoxicology databases (CD-ROM) are used in lectures from environmental chemistry, Ecotoxicology and risk analysis in pre- and postgraduate levels of RECETOX education.</p> <p>Databases which were bought during the first year of projects are used in scientific and education activities of RECETOX. Own database which summarized information which are necessary for the RECETOX research topics is continuously developed as a base for new expert systems.</p>		
Deliverable No.	Deliverable Title	Delivery Date:
D11.1	Database	36

Updated Planning Sheet

MONTHS AFTER SIGNATURE OF PROJECT DOCUMENT												
COMPONENTS/ACTIVITIES	25	26	27	28	29	30	31	32	33	34	35	36
Meetings of Scientific Committee – electronic conferences			■			■			■			■
Meetings of Scientific Advisory Board - electronic conferences			■			■			■			■
Organization of Workshop	■	■										
Organization of Conferences	■	■	■	■	■	■	■	■	■			
Organization of Summer School							■					
PhD Study	■	■	■	■	■	■	■	■	■	■	■	■
Scientific Network on PBT Chemicals (PBTs)	■	■	■	■	■	■	■	■	■	■	■	■
Scientific Network on PBT Chemicals (PBTs) in the (CEECs)	■	■	■	■	■	■	■	■	■	■	■	■
Czech National Environmental Chemistry and Ecotoxicology Network	■	■	■	■	■	■	■	■	■	■	■	■
Study visits	■	■	■	■	■	■	■	■	■	■	■	■
Study “PBTs in the CEECs”	■	■	■	■	■	■	■	■	■	■	■	■
Special Database	■	■	■	■	■	■	■	■	■	■	■	■

Deliverable No.	Deliverable title	Deliverable date (month)	Planning activities 2005
D1.1	Progress report	36	PR will be prepared during the last month of the 3 rd year
D2.1	Organization of 3 rd workshop	26	3 rd Workshop on Integrated Sediment and Soil Assessment will be organized during the period 10-12 February, 2005. Proposed number of participants: 50. Preliminary programme and all details are available on RECETOX web site: http://recetox.muni.cz/coe/index.php?id=50
D2.2	Proceedings from workshop	26	Only electronic website presentations will be prepared
D2.3	Website presentations of results and workshops proceedings	26	The Workshop Proceedings and presentation will be published with agreement of presenters
D2.4	Publications in special issues of scientific journals	36	The selected presentations will be published only.
D3.1	Organization the 2 nd conference	32	The ECOTOX Conference will be organized together with 4 th Workshop on Perfluorinated substances during 05-08 September 2005 in Brno. Preliminary programme and all details are available on RECETOX web site: http://www.recetox.muni.cz/coe/index.php?id=60
D3.2	Conference proceedings + CD	34	It will be prepared based on the plan.
D3.3	Website presentation of the conferences	34	
D3.4	Publications in special issues of scientific journals	39	

D4.1	Organization of the summer school	30	The 1 st Summer School in Environmental Chemistry and Ecotoxicology will be organized during the summer 2005 - 09-16 July, 2005 - see WP 4 or http://www.recetox.muni.cz/coe/index.php?id=70
D5.1	New Ph.D. programme in Environmental chemistry based on European universities networks and on the student exchange	25-36	The exchange of information and collection of experiences from European universities will continue.
D5.2	New Ph.D. programme in Ecotoxicology based on European universities networks and on the student exchange	25-36	The exchange of information and collection of experiences from European universities will continue together with preparation of accreditation of PhD programme Ecotoxicology based on the Czech University Act
D5.3	Study materials for both Ph.D. programmes	25-36	The first new textbook (Atmospheric Chemistry) will be prepared
D6.1	Establishment of the European PBT scientific network	25-36	The Network will continue with activities which started in previous year and will be focused on the preparation of new conceptual projects for 7 th FWP and EEA.
D6.2	Publishing of the European PBTs scientific network bulletin	25-36	Bulletin will be published twice a year – at June and December
D6.3	Providing the platform for scientific cooperation in Europe, new methods development and joint activities	25-36	The website communication, discussion clubs and contacts will be broadly realised
D7.1	Establishment of the Central and Eastern European Countries PBT scientific network	25-36	The possibilities of this form of regional co-operation will be discussed on the level of MoEs of CEECs
D7.2	Publishing of the Central and Eastern European Countries PBT scientific network bulletin	25-36	Bulletin will be published twice a year – at June and December
D7.3	Providing the platform for scientific cooperation among the Central and Eastern European Countries, for the new methods development and common activities	25-36	The website communication, discussion clubs and contacts will be broadly realised
D8.1	Establishment of the Czech National Environmental Chemistry and Ecotoxicology scientific network	25-36	The Czech National POPs Centre will continue in the activities which were started during 2004.
D8.2	Providing the platform for scientific and educational cooperation among the Czech universities, workshops, conferences, common textbooks, website and multimedia presentations	25-36	These activities will continue during the whole year 2005 - 2 conferences and 2 workshops will be organized
D8.3	Common projects preparations, expertises, exchange of staff and students	25-36	
D9.1	Exchange of students and young scientist on the base of new networks as a starting point to personal development, new methods development and future project cooperation	25-36	Preliminary 5 students and 10 staffs will travel abroad during 2005 – it will be specified on the real agreements with partners and real levels of accommodation and travels
D10.1	Preparation of the new PBT study in CEE countries including sources, levels, fate, exposures, effects and risks	25-36	The collection of information and data will continue during whole year
D11.1	Development of the new interactive database based on the various data sources, bioindicative and toxicological methods and approaches	25-36	The work will continue – main focused will be given to the development of expert system.