

EUROPEAN CONCERTED ACTION
INDOOR AIR QUALITY & ITS IMPACT ON MAN

Environment and Quality of Life

Report No. 9

Project Inventory
2nd Updated Edition



Commission of the European Communities
Directorate General for Science, Research and Development
Joint Research Centre - Environment Institute

EUROPEAN CONCERTED ACTION

INDOOR AIR QUALITY & ITS IMPACT ON MAN

(former COST Project 613)

Environment and Quality of Life

Report No. 9

Project Inventory

2nd Updated Edition

prepared on behalf of

The Concertation Committee



Commission of the European Communities
Directorate General for Science, Research and Development
Joint Research Centre - Environment Institute

LEGAL NOTICE

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Cataloguing data can be found at the end of this publication.

In this series the following reports have already been published.

- Report No. 1: Radon in indoor air.
- Report No. 2: Formaldehyde emissions from wood based materials: guideline for the establishment of steady state concentrations in test chambers.
- Report No. 3: Indoor Pollution by NO₂ in European countries.
- Report No. 4: Sick building syndrome - a practical guide.
- Report No. 5: Project inventory.
- Report No. 6: Strategy for sampling chemical substances in indoor air.
- Report No. 7: Indoor air pollution by formaldehyde in European Countries.
- Report No. 8: Guideline for the Characterization of Volatile Organic Compounds Emitted from Indoor Materials and Products Using Small Test Chambers

CONTENTS

| | |
|---|-----|
| 1. <i>Introduction</i> | 1 |
| 2. <i>Organization of the project Inventory</i> | 2 |
| 3. <i>Members of the Concertation Committee</i> | 2 |
| 4. <i>Keywords</i> | 4 |
| 5. <i>Keywords in alphabetical order with project identification numbers</i> | 6 |
| 6. <i>Names of principal investigators in alphabetical order with project identifications numbers</i> | 17 |
| 7. <i>Description of ongoing or recently concluded projects</i> | 25 |
| 7.01 Belgium (B 1 - B 3) | 25 |
| 7.02 Commission of the EC (CEC 1 - CEC 7) | 26 |
| 7.03 Denmark (DK 1 - DK 34) | 29 |
| 7.04 Finland (SF 1 - SF 26) | 40 |
| 7.05 France (F 1 - F 45) | 49 |
| 7.06 Germany (D 1 - D 47) | 64 |
| 7.07 Great Britain (GB 1 - GB 37) | 80 |
| 7.08 Greece (GR 1 - GR 8) | 93 |
| 7.09 Ireland (IRL 1) | 96 |
| 7.10 Italy (I 1 - I 20) | 97 |
| 7.11 Netherlands (NL 1 - NL 30) | 104 |
| 7.12 Norway (N 1 - N 18) | 114 |
| 7.13 Portugal (P 1 - P 3) | 120 |
| 7.14 Sweden (S 1 - S 31) | 121 |
| 7.15 Switzerland (CH 1 - CH 16) | 131 |
| 8. <i>Completed projects</i> | 137 |
| <i>Empty forms</i> | 147 |

1. INTRODUCTION

The European Community (EC) Concerted Action "Indoor Air Quality & Its Impact on Man" is operated by a Concertation Committee composed of representatives from the participating countries and from the Commission (chapter 3), and has the scope to foster indoor air quality related research in Europe with particular reference to:

- promoting mutual information and contacts between research groups from the participating countries,
- assessing the status of knowledge and research needs,
- developing research instruments such as guidelines for various types of measurements and investigations (e.g. characterization of emissions from materials, measurements in indoor spaces, "sick building syndrome" (SBS) investigations) through working groups,
- validating measurement methods through the organization of interlaboratory comparisons
- organizing discussion meetings on various aspects of indoor air quality research.

For all these activities an *inventory of ongoing or recently concluded research projects and investigations* is an important tool, in particular to identify expert knowledge in various fields. Moreover the inventory will enable those in this field to identify colleagues with similar interests and will hopefully promote contacts within the indoor air quality community.

The project inventory aims at giving short descriptions of all research projects and investigations aimed at understanding causes and effects of inadequate indoor air quality and at removing or mitigating such causes. In particular projects dealing with:

- the assessment of indoor air pollution and/or population exposure by field studies
- the assessment of the effects of indoor air pollution
- the characterization of sources of indoor air pollution with respect to their emissions and/or effects
- indoor air quality complaints in buildings including SBS studies
- the relation between indoor air quality and climate
- modelling of indoor air pollution
- the development of mitigation methods for indoor air pollution and
- the development and validation of methods for the above mentioned investigations

are all eligible for inclusion in the inventory.

This second edition of the inventory reports information on 325 projects from 14 countries and the Commission which are either ongoing or were concluded after 1988. Only those projects for which **all of the following information** was made available were included: institute/organization address, name of the principal investigator(s), descriptive project title, keywords, year of the project start and expected end. Projects contained in the first edition but concluded by 1988 have been removed from the inventory. However, a list of their titles and the names and addresses of their principal investigators have been included (see chapter 8) in order to give users the opportunity to contact people with experience in their fields of interest if they wish.

Although we have made considerable efforts to render this second edition as complete as possible there will still be ongoing work of which we are unaware. Also new work will have been started in the meantime. We will be grateful for any communication of yet unreported and new work or for any corrections or modifications to reported projects. It is intended to issue an updated version of the inventory within 18 - 24 months, depending on the number of incoming corrections and new project reports. Blank forms for reporting and correcting projects are included.

When reporting new projects, please describe them with keywords taken from the enclosed keyword list. **Add new keywords only if absolutely necessary.** Remember also that project reports can only be included in the inventory if they contain the abovementioned essential information. If a project is open ended, please state this expressively.

Please, send information (by fax if possible) on new projects or regarding changes or corrections to:

Dr. Helmut Knöppel
Joint Research Centre
Environment Institute
I-21020 Ispra (VA), Italy
Fax: + 39-332-789222

We hope that the inventory will be useful to you and thank for your collaboration.

Bernd Seifert
Chairman of the
Concertation Committee

Maurizio De Bortoli
Secretary

Helmut Knöppel
CEC responsible

2. ORGANIZATION OF THE PROJECT INVENTORY

The inventory contains the following: • the names and affiliations of the Concertation Committee members (section 3); • a list of keywords (section 4); • for each of these keywords, the identification numbers of the project reports in which they are referenced (section 5); • the names of the principal investigators along with the identification numbers of their projects (section 6); • the descriptions of the projects (section 7); • a list of completed projects (section 8). Three blank reporting forms have been added to the end of the inventory

In section 4 the keywords are grouped into 7 categories and they are alphabetically ordered within each category. This arrangement will hopefully facilitate the task of selecting keywords when filling in a project form.

In section 5, all keywords are alphabetically ordered. The figure in brackets after each keyword represents the number of projects that are referring to the keywords, followed by the identification numbers of these projects. This section should help to identify projects with a given content.

Section 6 is aimed at identifying the projects by the principle investigator. It gives the names of the principle investigators in alphabetical order followed by the number of projects they are conducting (in brackets) and by the identification numbers of these projects.

Section 7 contains information on the projects on formatted sheets, three of which are accommodated on each page. The projects are grouped together according to country. An identification number has been attributed to each project made up of the country code (as used for automobiles) and a number. Numbers are sequential and start from 1. They are attributed arbitrarily and may differ from one edition of the inventory to the next.

Section 8 contains projects which have been completed by 1988 (giving only project titles and names and addresses of the principal investigators) or alternatively, for which essential information was lacking whereby the project could not be included. These projects are also grouped according to their country of origin.

The empty reporting forms at the end of the inventory should be used for submitting corrections or new projects.

3. MEMBERS OF THE CONCERTATION COMMITTEE

BELGIUM

Dr. Raf **MERTENS**, EHDAC, I.H.E - Epidemiology Unit, Brussels

DENMARK

Prof. Ole **FANGER**, Laboratoriet for Varme- og Klimateknik, Danmarks Tekniske Højskole, Lyngby
Dr. Lars **MØLHAVE**, (vice chairman), Institute of Environmental & Occupational Medicine, Aarhus Universitet, Aarhus

FRANCE

Mr. Yvon **LE MOULLEC**, Laboratoire d'Hygiene de la Ville de Paris, Paris
Prof. Claude **MOLINA**, Hopital Sabourin, Clermont-Ferrand

GERMANY

Dr. Bernd **SEIFERT**, (chairman), Bundesgesundheitsamt, Institut für Wasser-, Boden- und Lufthygiene, Berlin

GREECE

Prof. Panayotis **SISKOS**, Laboratory of Analytical Chemistry, University of Athens, Athens

Dr. Athanasios **VALAVANIDIS**, Laboratory of Organic Chemistry, University of Athens, Athens

IRELAND

Dr. James P. **McLAUGHLIN**, Dept. of Physics, University College, Belfield, Dublin

Mr. Patrick A. **WRIGHT**, EOLAS, Glasnevin, Dublin 5

ITALY

Prof. Marco **MARONI**, Istituto di Medicina del Lavoro, Clinica del Lavoro "Luigi Devoto", Università di Milano, Milano

Prof. Antonio **REGGIANI**, Istituto Superiore di Sanità, Roma

THE NETHERLANDS

Ir. Anton P. M. **BLOM**, Ministry of Housing, Physical Planning & Environment, Air Pollution Directorate, Leidschendam

Dr. Bert **BRUNEKREEF**, Dept. of Environmental & Tropical Health, Agricultural University, Wageningen

NORWAY

Dr. Jan **HONGSLO**, Dept. of Environmental Medicine, National Institute of Public Health, Oslo

PORTUGAL

Eng. David A. **BIZARRO LEANDRO**, Direction General for Hygiene & Security at Work, Lisboa

SWEDEN

Prof. Dr. Thomas **LINDVALL**, National Institute of Environmental Medicine, Stockholm

Dr. Björn **LUNDGREN**, Swedish National Testing Institute, Borås

Prof. Birgitta **BERGLUND**, Dept. of Psychology, University of Stockholm, Stockholm

SWITZERLAND

Mr. Heinz **ROTHWEILER**, Institut für Toxikologie der ETH u. Universität Zürich, Schwerzenbach

Prof. Dr. H.U. **WANNER**, Institut für Hygiene und Arbeitsphysiologie der ETH, Zürich

UNITED KINGDOM

Dr. Linda **SMITH**, Dept. of the Environment, Romney House, London

WORLD HEALTH ORGANIZATION

Dr. Michael J. **SUESS**, Regional Officer for Environmental Health Hazards, Copenhagen

COMMISSION OF THE EC

Dr. Maurizio **DE BORTOLI** (secretary), Environment Institute, JRC, Ispra Establishment, Ispra (VA)

Dr. Helmut **KNÖPPEL**, Environment Institute, JRC, Ispra Establishment, Ispra (VA)

4. KEYWORDS

Please choose from the following list, those **keywords** which best characterize your project(s). Words in parentheses serve only as an explanation of the keywords and do need not to be reported.

KEYWORDS RELATED TO GENERAL PROJECT OBJECTIVES

adsorption
annual exposure
bioaccumulation
concentrations
control
control techniques
cost/benefit (*evaluations or calculations*)
deposition
diurnal variations
dose
electrostatic filters
emissions
energy conservation
exposure
guidelines
indoor/outdoor ratios
mechanisms
mitigation
pollution
product characterization
quality assurance
reactions
reactive
reference values
review
risk assessment
seasonal variations
spatial variations
standards
strategies
surfaces
TLV (*threshold limit values*)
variations (*of concentrations/exposure or effects*)

SOURCE RELATED KEYWORDS

sources (*of pollution; if possible specify source*)
animals
building equipment
building materials
combustion (*sources*)
dogs
drinking water
dry cleaning shops
external sources
filter systems
furniture
gas appliances
harbour sludge
human activities
hobby products
home textiles
household products
nutrition
outdoor air
paints
paraffin heaters
pets
plants
refuse shoots
renovation
screen printing plants

soil
soil characteristics
uffi
water
waterborne

POLLUTANT RELATED KEYWORDS

aerosols
aldehydes
allergens
ammonia
asbestos
bacteria
biocides
biological (*pollution*)
charged particles
chemical
chloramines
chlorinated dioxins
chlorinated H(ydro-)C(arbons)
carbon monoxide
CO₂
combustion products
chlorinated dioxin
ETS (*Environmental Tobacco Smoke*)
fibres
food contamination
formaldehyde
free radicals
fungi
gamma radiation
gases
halogenated H(ydro-)C(arbons)
HCHO (*formaldehyde*)
house dust
inorganic (*chemical*)
ions
isocyanates
metals
microorganisms
mites
MMMF (*man made mineral fibres*)
moulds
mycotoxins
noise
non-ionizing radiation
NO_x (*NO₂, NO*)
N-PAH
odours
organic (*chemical*)
ozone
PAH (*polycyclic aromatic hydrocarbons*)
PCB (*polychlorinated biphenyls*)
PCP (*pentachlorophenol*)
PM (*particulate matter*)
pollen
pollutants
POM (*particulate organic matter = organics extractable from particulate matter*)
radioactivity
radon
SO₂
solvents
spores

static electricity
styrene
suspended particulates
SVOC (*semivolatile organic compounds*)
tetrachloroethylene (= *perchloroethylene*)
vapours
VOC (*volatile organic compounds*)

INDOOR ENVIRONMENT RELATED KEYWORDS

buildings (*add further specification if possible*)
day-care centres
developing countries
dwellings
hospitals
industrial buildings
mobile homes
new buildings
offices
residences
schools (*incl. nursery schools, universities etc.*)
sport establishments
swimming halls
temporary building
traffic related (*environments, including cars*)
underground

EFFECT AND OCCUPANT RELATED KEYWORDS

airway
allergy
asthma
asthmatic
atopic
(*neuro-*) behavioural effects
biochemical effects
bronchoreactivity
cancer
cancerogenic
chemical sensitivity
children
CNSLD
comfort
complaints (*study, investigation*)
effects (*add further specification if possible*)
elderly
general population
(*other*) genotoxicity
health
hyperreactivity
hypersensitivity
immunological effects
infection
infestation
inhalation
intoxication
irritation (*mucuous membranes, eyes, skin*)
lung function
mutagenicity
nasal function
neurotoxicity
non-respiratory
nurses
occupants
other systemic (*diseases*)
physiological (*reactions*)
respiratory (*effects*)
risk groups
SBS (= "*Sick Building Syndrome*" investigation)
sensory effects
skin effects

symptoms
susceptible groups
toxicological
toxicology
workers

CLIMATE/VENTILATION RELATED KEYWORDS

ACS (*Air Conditioning System*)
air infiltration
air movement
air recirculation
air velocity
climate (*temperature a/o humidity*)
condensation
dilution (*ventilation*)
displacement (*ventilation*)
forced ventilation
humidity
meteorological factors
moisture
multizonal
natural ventilation
temperature
ventilation
ventilation efficiency
ventilation system

METHOD RELATED KEYWORDS

analysis
animal study
assessment
bioassay
biological monitoring
blood analysis
breath analysis
chamber study
cleaning
comparison
(*human*) controlled exposure (*study*)
data base,
detection (*of any parameter*)
detection methods
development
environmental monitoring
epidemiological study
epidemiology
evaluation
eye examination
field study
interlaboratory comparison
intervention
inventory
investigations
in vitro study
measurements (*of any parameter*)
measurement methods
methods
mice
models
passive samplers
personal monitoring
QSAR (*quantitative structure-activity relationship*)
representative survey
sampling
standardization
subjective evaluation
tracer gases
trained panel
validation

5. KEYWORDS IN ALPHABETICAL ORDER WITH THEIR PROJECT IDENTIFICATION NUMBERS

| | |
|-----------------------|---|
| ACS (14) | DK 31, F 7, F 30, GB 22, I 3, N 2, N 5, NL 1, NL 18, NL 25, P 1, S 4, SF 12, SF 22 |
| adsorption (5) | CEC 6, F 33, S 8, S 21, SF 26 |
| aerosols (5) | CH 13, D 16, D 42, SF 20, SF 21 |
| air infiltration (4) | CEC 3, NL 19, S 5, S 11 |
| air movement (20) | CH 7, CH 11, CH 15, DK 14, DK 26, F 27, F 28, F 40, GB 3, GB 10, N 5, NL 9, NL 20, NL 24, NL 26, P 1, S 6, S 8, S 9, SF 13 |
| air pollution (1) | F 11 |
| air recirculation (2) | P 1, SF 17 |
| air velocity (1) | DK 1 |
| airway (3) | D 44, DK 3, GB 14 |
| aldehydes (8) | D 12, F 19, I 20, SF 1, SF 3, SF 6, SF 7, SF 8 |
| allergens (11) | D 24, DK 16, DK 17, F 36, N 8, N 11, N 12, N 13, NL 1, NL 4, S 17 |
| allergy (15) | D 14, D 17, D 44, D 45, DK 16, DK 17, F 3, F 36, GB 32, GB 33, N 11, NL 18, S 17, SF 14, SF 24 |
| ammonia (1) | SF 8 |
| analysis (29) | CEC 1, CEC 2, CEC 3, CEC 7, CH 2, D 10, D 12, D 15, D 18, D 23, D 32, D 35, DK 16, DK 17, F 8, F 9, F 19, F 22, GB 16, N 1, N 7, N 11, N 12, NL 29, SF 1, SF 2, SF 8, SF 9, SF 10 |
| animal study (7) | D 13, D 16, D 17, D 19, D 21, F 12, NL 7 |
| animals (2) | DK 16, DK 17 |
| asbestos (6) | F 6, F 45, GB 11, GB 25, GB 29, GR 4 |
| assessment (30) | B 1, B 2, CH 10, D 15, D 24, D 30, D 31, DK 18, F 1, F 32, F 42, GB 6, GB 19, GR 1, GR 2, I 2, I 5, I 9, I 10, IRL 1, N 16, N 18, NL 27, P 3, S 1, S 4, S 13, S 16, S 22, SF 20 |
| asthma (7) | CH 14, D 44, DK 18, DK 19, DK 20, GB 33, S 17 |
| asthmatic (1) | GB 14 |
| atopic (1) | D 44 |

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|----------------------------|---|
| bacteria (6) | F 43, I 17, I 18, NL 1, S 17, SF 20 |
| behavioural effects (4) | D 19, DK 18, F 29, NL 12 |
| bioassay (3) | DK 2, DK 3, S 25 |
| biochemical effects (1) | N 8 |
| biocides (3) | CH 4, D 29, GB 12 |
| biological (26) | CH 13, D 7, D 14, D 24, F 2, F 3, F 8, F 24, F 29, F 43, GB 5, GB 12, GB 28, GB 33, I 17, NL 4, NL 8, NL 10, NL 15, NL 16, NL 18, NL 19, NL 28, SF 20, SF 23, SF 24 |
| biological monitoring (15) | CH 4, D 1, D 2, D 4, D 6, D 20, D 27, D 43, D 47, F 5, F 11, GB 12, GB 34, GR 4, S 25 |
| blood analysis (3) | D 5, D 43, D 47 |
| building equipment (7) | D 9, D 24, DK 6, F 33, F 34, F 36, N 4 |
| building materials (40) | CEC 2, CEC 6, CH 3, CH 8, D 15, D 29, D 40, DK 4, DK 5, DK 9, DK 18, DK 19, DK 28, DK 29, F 34, F 37, F 38, F 45, GB 2, GR 1, I 2, I 9, I 11, I 16, N 1, N 4, N 7, N 10, N 16, NL 27, P 2, S 16, S 18, S 19, S 21, SF 1, SF 4, SF 6, SF 7, SF 8 |
| buildings (31) | CH 2, CH 6, CH 16, D 28, D 38, D 39, DK 26, DK 32, F 2, F 4, F 5, F 6, F 8, F 9, F 16, F 18, F 20, F 25, F 26, F 27, F 30, F 45, GB 8, GB 9, GB 27, GB 28, GB 29, I 7, N 4, N 9, NL 21 |
| cancer (4) | B 1, D 25, GB 17, NL 10 |
| cancerogenic (2) | F 12, NL 7 |
| carbon monoxide (2) | F 39, F 41 |
| chamber study (23) | CEC 2, CEC 5, CEC 6, CH 9, D 9, D 13, D 16, D 17, D 21, DK 6, DK 14, DK 18, DK 19, DK 29, F 1, F 25, F 32, F 37, GB 24, N 10, SF 1, SF 6, SF 7 |
| chemical (2) | F 29, NL 28 |
| children (13) | CH 12, D 3, D 6, D 11, D 29, D 44, D 45, F 13, GB 1, GB 11, GB 26, I 12, S 17 |
| chlorinated HC (6) | D 10, D 18, D 20, D 23, D 31, GR 5 |
| chlorinated dioxins (1) | D 29 |
| cleaning (1) | DK 34 |
| climate (33) | DK 22, F 23, F 24, F 27, F 30, F 33, F 34, F 43, GB 20, N 2, N 4, N 5, N 6, NL 6, NL 8, NL 9, NL 15, NL 16, NL 17, NL 18, NL 19, NL 20, NL 21, NL 23, P 1, S 3, S 4, S 5, SF 2, SF 3, SF 5, SF 14, SF 15 |

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| CO ₂ (1) | S 9 |
| combustion (9) | F 9, F 14, F 20, F 31, F 33, F 34, I 1, NL 13, NL 16 |
| combustion products (3) | F 40, F 41, I 15 |
| comfort (4) | F 34, I 3, NL 6, S 29 |
| comparison (15) | CH 7, CH 11, DK 8, DK 11, F 42, GB 25, I 3, I 10, I 16, I 18, S 2, S 3, S 15, S 23, SF 16 |
| complaints (11) | CEC 4, CH 10, CH 11, D 43, N 9, NL 1, NL 14, NL 16, NL 17, SF 5, SF 8 |
| concentrations (49) | CEC 3, CEC 4, CH 1, CH 2, CH 4, D 4, D 11, D 17, D 22, D 27, D 32, D 38, D 39, D 42, D 43, D 46, D 47, DK 9, DK 16, DK 25, DK 28, F 4, F 14, F 17, F 18, F 20, F 33, F 43, F 45, GB 5, GB 12, GB 20, GB 21, GR 5, I 8, I 19, N 3, N 7, NL 26, NL 30, P 2, P 3, S 1, S 2, S 3, S 8, SF 13, SF 19, SF 20 |
| condensation (1) | DK 24 |
| control (24) | CH 13, D 5, D 7, D 14, DK 14, F 30, F 38, F 44, F 45, GB 4, GB 6, GB 9, GB 18, GB 22, I 2, I 9, N 2, N 13, NL 5, NL 8, NL 11, NL 18, S 9, SF 18 |
| control techniques (9) | CH 6, D 34, DK 15, DK 20, DK 23, DK 24, N 2, S 4, S 20 |
| controlled exposure (6) | D 17, D 19, D 44, DK 13, DK 18, DK 19 |
| cost/benefit (2) | CH 5, I 10 |
| database (10) | DK 22, DK 33, F 17, F 31, GB 27, NL 12, NL 30, S 18, SF 6, SF 7 |
| day-care centres (4) | S 30, SF 4, SF 14, SF 24 |
| deposition (2) | DK 1, S 12 |
| detection (3) | F 16, N 11, N 12 |
| detection methods (14) | CH 1, D 7, D 10, D 12, D 18, D 23, NL 19, SF 1, SF 3, SF 4, SF 5, SF 6, SF 7, SF 26 |
| determination (2) | CEC 5, CEC 6 |
| developing countries (2) | GB 20, NL 13 |
| development (28) | CEC 7, CH 1, CH 8, D 9, D 10, D 12, D 14, D 18, D 19, D 23, D 26, D 36, D 37, F 1, F 8, F 35, GB 2, GB 16, GB 18, GB 24, I 5, N 2, NL 3, NL 9, NL 11, S 8, SF 11, SF 21 |
| dilution (1) | DK 11 |
| displacement (3) | DK 11, N 3, S 6 |

| | |
|------------------------------|--|
| diurnal variations (3) | DK 20, F 26, F 43 |
| dogs (2) | D 16, DK 17 |
| dose (6) | B 2, I 5, IRL 1, NL 27, P 3, S 12 |
| drinking water (1) | D 6 |
| dry-cleaning shops (4) | D 5, D 20, D 43, D 47 |
| dust (2) | DK 21, GB 2 |
| dwellings (36) | B 3, CEC 3, CH 11, CH 12, D 2, D 4, D 7, D 43, D 44, DK 4, DK 23, DK 24, DK 25, F 19, F 34, F 42, GB 23, GR 7, I 1, I 13, I 14, I 15, NL 2, NL 27, NL 28, S 1, S 2, S 3, S 7, S 11, S 14, S 15, S 17, SF 8, SF 16, SF 24 |
| effects (38) | CH 12, CH 14, D 3, D 8, D 13, D 16, D 17, D 27, D 33, DK 10, DK 20, DK 33, F 3, F 7, F 12, GB 1, GB 7, GB 13, GB 14, GB 17, GB 26, GB 27, GB 28, GB 31, GB 32, GB 33, I 6, I 12, N 14, NL 6, NL 7, NL 10, NL 13, NL 15, NL 17, NL 30, S 22, S 26 |
| electrostatic filters (2) | GB 4, N 12 |
| emissions (41) | CEC 5, CH 3, D 9, D 15, D 34, D 36, D 37, D 40, DK 3, DK 5, DK 6, DK 8, DK 9, DK 18, DK 19, DK 28, F 1, F 10, F 16, F 31, F 33, F 37, F 38, GB 1, GB 2, I 1, I 2, I 15, N 10, NL 30, S 8, S 16, S 17, S 18, S 19, S 20, S 30, SF 1, SF 6, SF 7, SF 8 |
| energy conservation (7) | CH 5, D 26, DK 23, DK 27, F 42, I 10, N 3 |
| environmental monitoring (3) | F 41, GB 16, S 26 |
| epidemiological study (12) | CH 12, D 6, D 11, D 25, D 44, DK 21, GB 1, GB 17, GB 31, I 4, I 6, N 14 |
| epidemiology (6) | B 1, F 6, GB 34, GB 37, I 3, S 24 |
| ETS (9) | CH 9, CH 14, D 1, D 2, F 11, F 32, GB 5, GB 20, GR 8 |
| evaluation (25) | CH 8, D 12, D 18, D 33, D 36, D 37, D 41, F 9, F 14, F 22, F 25, F 36, GB 25, GB 35, I 8, I 15, I 16, N 3, NL 3, NL 4, NL 6, NL 11, NL 17, SF 10, SF 23 |
| exposure (60) | B 2, CH 5, CH 9, D 6, D 7, D 8, D 11, D 16, D 17, D 20, D 21, D 29, D 30, D 31, D 33, D 38, D 39, D 44, D 47, DK 5, DK 28, F 1, F 5, F 6, F 11, F 12, F 14, F 15, F 16, F 17, F 18, F 32, F 33, GB 8, GB 11, GB 13, GB 24, GB 29, GB 31, GR 3, GR 4, I 5, I 7, I 13, I 14, I 20, IRL 1, N 12, NL 4, N 6, NL 5, NL 13, NL 16, NL 18, NL 27, P 2, P 3, S 1, S 13, S 15 |
| external sources (2) | D 47, P 2 |
| eye examination (3) | DK 1, DK 6, DK 18 |

| | |
|-------------------------|---|
| fibres (10) | CH 8, DK 13, GB 8, GB 11, GB 29, GB 32, GR 4, I 7, N 7, S 17 |
| field study (33) | CEC 3, CEC 4, CH 2, CH 4, D 2, D 4, DK 5, DK 23, F 20, F 21, F 23, F 24, F 39, GB 19, GB 6, GR 2, GR 3, GR 4, GR 5, GR 6, I 1, I 17, I 19, I 20, N 4, N 5, N 14, S 4, S 5, S 10, S 16, S 17, S 20, S 30 |
| filter systems (5) | D 42, GB 18, N 12, SF 22, SF 25 |
| food contamination (1) | N 8 |
| forced ventilation (11) | CH 7, CH 15, DK 23, F 26, F 33, F 40, GB 15, N 5, NL 1, P 1, S 7 |
| free radicals (1) | GR 8 |
| fungi (11) | F 8, GB 12, GB 14, I 17, I 18, N 11, NL 1, NL 19, SF 19, SF 20, SF 21 |
| furniture (2) | D 22, D 46 |
| gamma radiation (1) | NL 27 |
| gas appliances (6) | D 46, F 34, F 40, F 41, GB 1, I 15 |
| gases (4) | D 1, D 2, F 19, N 8 |
| general population (5) | D 5, D 6, D 30, IRL 1, N 9 |
| genotoxicity (4) | D 1, D 21, NL 7, NL 10 |
| guidelines (5) | B 3, N 5, NL 1, NL 29, S 29 |
| halogenated HC (3) | D 23, D 32, SF 9 |
| HCHO/formaldehyde (19) | D 1, D 12, D 19, D 46, DK 4, DK 19, DK 29, F 12, F 18, F 21, F 35, GB 2, GB 5, GB 24, GR 3, I 1, I 20, N 1, N 14, S 17 |
| health (10) | D 33, F 29, F 34, GB 23, GB 29, NL 2, S 26, S 29, SF 15, SF 17 |
| health effects (2) | F 13, NL 1 |
| heat (1) | DK 21 |
| heavy metals (1) | GR 5 |
| hobby products (4) | D 15, F 9, F 10, F 17 |
| home textiles (1) | D 24 |
| homes (2) | N 14, NL 15 |
| hospitals (3) | F 8, F 30, S 4 |
| house dust (10) | D 6, D 13, D 44, DK 13, N 8, N 11, N 12, S 17, SF 18, SF 26 |

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| household products (11) | CEC 2, D 9, D 15, F 9, F 10, F 16, F 17, F 31, I 6, N 13, NL 18 |
| human activities (1) | DK 5 |
| human exposure (1) | I 11 |
| humidification (1) | SF 15 |
| humidity (3) | GB 23, NL 21, S 17 |
| hyperreactivity (5) | D 3, D 8, D 44, GB 32, GB 33 |
| identification (1) | N 17 |
| immunological effects (4) | D 45, DK 7, GB 32, GB 33 |
| in vitro study (2) | N 11, NL 7 |
| indoor/outdoor ratios (9) | D 4, D 30, D 42, F 13, I 12, I 17, N 1, N 14, SF 19 |
| industrial buildings (6) | D 38, D 39, GB 3, GB 28, GB 32, GB 33 |
| infection (3) | NL 18, SF 14, SF 24 |
| infestation (1) | NL 18 |
| inhalation (4) | D 25, D 30, NL 7, S 12 |
| inorganic (4) | F 20, F 24, F 33, GB 13 |
| insecticides (1) | GB 12 |
| interlaboratory comparison (3) | CEC 5, SF 9, SF 10 |
| intervention (2) | DK 21, S 4 |
| intoxication (1) | F 39 |
| inventory (1) | F 1 |
| investigations (4) | DK 19, I 14, NL 1, NL 16 |
| ions (3) | DK 20, N 14, S 4 |
| irritation (10) | D 21, D 45, DK 2, DK 3, DK 6, I 4, N 6, S 4, S 22, S 24 |
| isocyanates (1) | CH 2 |
| lung function (6) | CH 14, D 3, D 16, D 44, D 45, GB 13 |
| measurement methods (12) | CEC 1, CEC 2, CH 8, D 1, D 10, D 12, D 18, D 23, D 36, D 37, DK 12, NL 20 |

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| measurements (62) | CEC 7, CH 2, CH 4, CH 9, CH 13, CH 16, D 4, D 5, D 27, D 40, D 41, D 44, D 47, DK 4, DK 5, DK 14, DK 24, DK 25, DK 26, DK 32, F 1, F 4, F 5, F 10, F 11, F 16, F 36, F 37, F 45, GB 2, GB 3, GB 5, GB 6, GB 8, GB 15, GB 19, GB 24, GB 25, GB 30, GB 36, GR 6, GR 7, N 5, N 6, N 14, N 17, NL 3, NL 4, NL 17, NL 18, NL 21, S 6, S 7, S 13, S 14, S 15, S 17, S 19, S 24, S 27, SF 5, SF 8 |
| mechanisms (1) | S 28 |
| metals (7) | D 6, D 11, D 27, F 13, F 18, F 19, GR 5 |
| meteorological factors (3) | D 28, I 16, S 11 |
| methods (29) | CH 10, CH 16, D 9, D 14, D 26, D 28, D 35, DK 2, DK 3, DK 8, DK 30, F 1, F 8, F 9, F 16, F 22, F 25, GB 9, GB 35, GB 36, GB 37, I 18, N 15, S 8, S 16, S 24, SF 18, SF 21, SF 23 |
| mice (2) | DK 2, DK 3 |
| microbial activity (1) | SF 25 |
| microorganisms (6) | D 7, I 17, I 18, N 15, N 16, SF 22 |
| mites (8) | D 7, D 24, DK 17, F 36, GB 23, N 11, S 17, SF 18 |
| mitigation (2) | D 28, GB 19 |
| MMMF (3) | DK 13, F 45, N 7 |
| models (35) | CH 15, DK 5, DK 8, DK 9, DK 14, DK 26, DK 29, DK 33, F 17, F 26, F 28, F 32, F 34, F 40, F 42, GB 6, GB 10, GB 19, GB 27, I 8, N 2, NL 8, NL 9, NL 18, NL 19, NL 22, NL 23, NL 24, NL 25, NL 26, NL 28, P 1, S 6, S 11, SF 13 |
| moisture (8) | DK 24, F 42, NL 8, NL 9, NL 15, NL 19, NL 20, SF 24 |
| moulds (5) | F 36, GB 23, N 11, NL 8, S 17 |
| multizonal (6) | CH 16, NL 22, S 7, S 10, S 11, SF 13 |
| mutagenicity (3) | D 27, GR 8, NL 10 |
| mycotoxins (1) | SF 21 |
| N-PAH (1) | D 27 |
| nasal function (4) | D 45, DK 19, GB 36, S 12 |
| natural ventilation (12) | CH 7, CH 15, DK 24, F 26, F 33, F 40, F 41, GB 3, GB 15, I 3, I 19, NL 19 |
| nephrotoxicity (1) | F 13 |
| neurotoxicity (1) | D 19 |

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| new buildings (5) | CH 1, F 36, I 3, SF 3, SF 8 |
| noise (1) | F 29 |
| NOx (17) | CH 12, D 8, D 21, D 42, D 46, F 14, F 18, F 21, F 41, GB 5, GB 20, GB 21, GB 26, GR 7, I 1, I 15, N 14 |
| nutrition (1) | D 6 |
| occupants (8) | CEC 4, D 29, F 36, I 4, I 13, I 14, NL 12, S 4 |
| odours (15) | D 33, DK 6, F 16, F 44, N 17, S 21, S 22, S 23, S 24, S 27, S 28, S 29, SF 11, SF 12, SF 22 |
| offices (34) | CEC 4, CH 2, CH 10, CH 11, CH 13, DK 6, F 16, F 30, F 45, GB 5, GB 9, GB 22, GB 29, GB 34, GB 35, GB 36, GB 37, I 3, I 4, I 17, I 20, N 4, N 6, N 7, N 18, NL 1, NL 14, SF 2, SF 3, SF 5, SF 15, SF 17, SF 19, SF 22 |
| organic (8) | CH 1, CH 2, D 35, D 36, D 37, D 40, F 33, SF 26 |
| organic effects (1) | N 8 |
| other systemic (2) | F 13, I 4 |
| outdoor air (3) | D 42, N 1, S 25 |
| ozone (2) | GB 13, I 15 |
| PAH (5) | D 27, F 14, SF 10, SF 23, SF 25 |
| paints (6) | DK 2, DK 8, DK 19, F 4, SF 6, SF 7 |
| paraffin heaters (1) | GB 1 |
| passive samplers (6) | CEC 1, D 46, GB 30, N 6, S 10, S 17 |
| PCP (1) | D 29 |
| perchloroethylene (2) | D 10, D 43 |
| personal monitoring (2) | GB 16, GB 30 |
| pets (3) | D 7, DK 17, N 11 |
| physiological (2) | CH 14, N 8 |
| pollen (1) | SF 23 |
| pollutants (34) | CEC 3, CEC 4, CH 8, CH 13, D 2, D 13, D 14, D 22, D 26, D 27, D 33, D 34, D 35, D 41, D 45, DK 2, DK 10, DK 14, DK 28, F 8, F 9, F 12, F 14, F 17, F 18, F 33, GB 4, GB 12, GB 13, I 1, NL 4, S 8, SF 12, SF 13 |

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| pollution (86) | CH 1, CH 2, D 3, D 7, D 11, D 16, D 17, D 20, D 24, D 29, D 31, D 42, DK 12, DK 15, DK 31, DK 33, DK 34, F 2, F 3, F 4, F 5, F 13, F 15, F 16, F 19, F 20, F 21, F 22, F 24, F 29, F 32, F 43, F 44, F 45, GB 2, GB 5, GB 6, GB 8, GB 11, GB 16, GB 17, GB 18, GB 19, GB 20, GB 21, GB 24, GB 27, GB 28, GB 29, GB 31, GB 32, GB 33, GR 3, GR 4, GR 5, GR 6, I 2, I 5, I 8, I 10, I 11, I 12, I 13, I 14, I 17, IRL 1, N 3, N 14, NL 7, NL 8, NL 10, NL 16, NL 18, NL 19, NL 26, NL 27, NL 28, NL 29, P 2, P 3, SF 14, SF 15, SF 20, SF 23, SF 24, SF 26 |
| POM (13) | CEC 7, CH 8, D 27, DK 7, F 14, F 21, GB 4, GB 20, GB 22, GB 28, GB 33, NL 7, NL 10 |
| product characterization (12) | CEC 2, D 9, D 40, F 1, F 37, GB 2, GB 24, N 10, S 20, SF 1, SF 6, SF 7 |
| QSAR (1) | DK 3 |
| quality assurance (5) | D 23, D 35, GB 25, N 4, S 27 |
| questionnaire (2) | DK 21, S 30 |
| radioactivity (4) | GR 2, S 11, S 12, S 14 |
| radon (39) | B 1, B 2, B 3, CH 3, CH 5, D 25, D 28, D 30, D 38, D 39, DK 25, DK 26, F 12, F 15, GB 6, GB 17, GB 19, GR 1, GR 2, GR 6, I 5, I 11, I 13, I 14, I 16, I 19, IRL 1, NL 27, P 2, P 3, S 1, S 2, S 3, S 5, S 11, S 12, S 13, S 14, S 15 |
| reactions (1) | N 16 |
| reactive (1) | CH 1 |
| reference values (1) | D 6 |
| renovation (3) | CH 1, F 2, N 4 |
| representative survey (8) | B 3, F 34, I 5, I 13, N 9, S 5, SF 4, SF 7 |
| residences (25) | CH 2, CH 7, CH 10, CH 13, D 5, D 31, D 38, D 39, D 46, F 2, F 8, F 9, F 10, F 16, F 18, F 20, F 25, GB 1, GB 26, I 10, NL 17, NL 18, P 2, P 3, S 5 |
| respiratory (15) | CH 2, D 3, D 8, D 16, F 3, GB 1, GB 26, GB 28, GB 31, GB 32, GB 33, I 12, NL 13, NL 15, S 12 |
| review (4) | DK 3, DK 11, F 38, S 18 |
| risk (3) | B 1, F 1, GR 1 |
| risk assessment (6) | D 17, D 21, D 25, NL 28, S 25, S 26 |
| risk groups (7) | CH 14, GB 7, GB 17, GB 28, GB 29, GB 31, GB 32 |

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| sampling (35) | CEC 1, CEC 2, CEC 3, CEC 7, CH 2, D 5, D 10, D 12, D 15, D 18, D 23, D 26, DK 12, DK 17, DK 30, F 4, F 8, F 9, F 22, GB 16, GB 30, I 18, N 1, N 7, N 15, NL 29, S 9, SF 1, SF 2, SF 3, SF 4, SF 5, SF 6, SF 7, SF 21 |
| SBS (24) | CH 10, CH 11, DK 19, DK 21, F 7, F 24, F 30, GB 9, GB 34, GB 35, GB 36, GB 37, I 3, N 1, N 5, N 18, NL 1, NL 5, NL 14, NL 18, S 4, S 5, S 30, SF 11 |
| schools (21) | B 3, CH 2, CH 10, D 29, D 38, D 39, D 46, F 5, F 6, F 19, F 29, F 45, GB 11, GB 15, I 17, I 19, I 20, N 4, N 11, N 12, S 30 |
| seasonal variations (4) | DK 25, F 26, GB 26, SF 19 |
| sensory (2) | DK 10, DK 33 |
| sensory effects (13) | DK 19, DK 31, DK 32, DK 34, N 5, S 24, S 27, S 28, S 29, SF 11, SF 15, SF 16, SF 17 |
| skin effects (1) | I 6 |
| smoking (1) | GB 34 |
| SO ₂ (3) | D 8, I 15, N 14 |
| soil (1) | D 28 |
| soil characteristics (2) | DK 26, F 44 |
| solvents (4) | N 13, S 21, S 22, S 23 |
| sources (42) | CH 3, CH 10, CH 13, D 15, D 20, D 22, D 24, D 27, D 40, D 43, DK 3, DK 14, DK 28, DK 31, DK 33, F 1, F 9, F 10, F 14, F 16, F 20, F 29, F 33, F 35, F 44, F 45, GB 1, GB 20, GB 21, GB 27, GR 3, I 1, I 9, I 16, NL 5, NL 13, NL 16, NL 27, NL 30, SF 8, SF 12, SF 22 |
| spatial variations (4) | DK 14, F 26, F 43, N 3 |
| spores (1) | SF 19 |
| standards (11) | CH 6, DK 9, DK 32, F 16, F 25, F 35, GB 7, GB 16, GB 27, NL 18, SF 9 |
| static electricity (2) | N 6, S 4 |
| strategies (11) | CH 6, CH 9, D 5, DK 12, F 26, I 9, N 2, NL 10, NL 18, NL 28, NL 29 |
| subjective evaluation (8) | DK 10, DK 18, DK 33, S 4, S 23, SF 11, SF 16, SF 17 |
| surfaces (3) | D 34, DK 12, F 43 |
| susceptible groups (5) | D 8, D 11, GB 1, GB 11, I 4 |
| suspended particulates (7) | D 27, GR 8, I 19, N 6, N 7, N 14, S 4 |

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| SVOC (16) | CEC 7, CH 2, CH 4, CH 8, D 15, D 17, D 29, DK 28, F 17, F 18, F 21, F 31, I 1, SF 1, SF 6, SF 8 |
| swimming halls (2) | D 32, F 5 |
| symptoms (7) | GB 34, N 5, N 18, S 4, S 23, S 24, SF 16 |
| temperature (2) | P 1, S 11 |
| tetrachloroethylene (4) | D 5, D 19, D 20, D 47, S 14, TLV(1), N 1 |
| toxicological (5) | GB 28, GB 32, GB 33, NL 7, NL 10 |
| toxicology (2) | CH 4, D 27 |
| tracer gases (3) | DK 24, S 8, S 10 |
| traffic related (5) | D 36, D 37, D 42, F 43, F 44 |
| trained panel (1) | SF 11 |
| uffi (1) | GB 2 |
| underground (4) | D 38, D 39, F 43, F 44 |
| validation (15) | CH 8, CH 16, D 18, D 21, DK 26, F 8, F 28, GB 36, GB 37, I 8, N 1, NL 3, S 8, SF 9, SF 10 |
| variations (20) | D 8, D 11, DK 25, F 18, GB 5, GB 19, GB 20, GB 21, I 12, I 14, N 2, N 18, S 1, S 2, S 3, S 15, SF 2, SF 3, SF 7, SF 8 |
| velocities (1) | DK 1 |
| ventilation (56) | CEC 4, CH 6, CH 7, CH 15, CH 16, D 28, D 38, D 39, D 42, DK 11, DK 15, DK 21, DK 27, DK 29, DK 32, F 25, F 27, F 28, F 30, F 34, F 36, F 39, GB 5, GB 7, GB 10, GB 19, GB 20, GB 21, GB 22, GB 26, I 16, N 3, N 4, NL 6, NL 9, NL 11, NL 12, NL 16, NL 17, NL 18, NL 20, NL 22, S 1, S 3, S 4, S 6, S 8, S 9, S 10, S 11, S 17, S 30, SF 3, SF 12, SF 15, SF 16 |
| ventilation efficiency (3) | F 42, NL 20, S 6, S 7 |
| ventilation system (5) | CH 11, DK 34, F 42, SF 23, SF 25 |
| VOC (65) | CEC 1, CEC 2, CEC 3, CEC 4, CEC 5, CEC 6, CH 1, CH 8, D 1, D 4, D 6, D 9, D 13, D 17, D 18, D 20, D 21, D 23, D 31, DK 4, DK 5, DK 6, DK 8, DK 9, DK 10, DK 19, DK 28, DK 29, DK 30, F 4, F 5, F 14, F 17, F 18, F 19, F 31, F 37, GB 2, GB 5, GB 20, GB 21, GB 22, GB 24, I 1, I 20, N 10, N 17, NL 16, S 17, S 18, S 19, S 21, S 22, S 23, SF 1, SF 2, SF 3, SF 4, SF 5, SF 6, SF 7, SF 8, SF 23, SF 25, SF 26 |
| waterborne (1) | DK 8 |
| workers (5) | GB 17, GB 28, GB 29, GB 31, G |

6. PRINCIPAL INVESTIGATORS IN ALPHABETICAL ORDER WITH PROJECT IDENTIFICATION NUMBERS

| | |
|-------------------------|--|
| Aas K. (1) | N 8 |
| Abbritti G. (2) | I 3, I 4 |
| Ackers J.G. (1) | NL 27 |
| Adlkofer F. (3) | D 1, D 2, D 4 |
| Aigueperse J. (3) | F 14, F 17, F 31 |
| Aitken R.J. (2) | GB 16, GB 18 |
| Allain P. (2) | F 4, F 5 |
| Andersson K. (1) | S 24 |
| Andersson S. (1) | S 30 |
| Anguenot F. (4) | F 9, F 14, F 17, F 31 |
| Aptelbach R. (2) | D 19, D 33 |
| Baglioni A. (2) | I 2, I 9 |
| Bauhof H. (1) | D 36 |
| Beckert J. (1) | D 26 |
| Berglund B. (7) | S 21, S 22, S 23, S 24, S 27, S 28, S 29 |
| Bergsoe N. (1) | DK 15 |
| Bernard C.A. (1) | CH 10 |
| Bienfait D. (4) | F 25, F 26, F 39, F 42 |
| Billon-Galland M.A. (1) | F 45 |
| Bischoff E. (1) | D 7 |
| Blom P. (1) | N 10 |
| Boehm E. (1) | D 41 |
| Boesmans B. (1) | NL 2 |
| Boiteau H.L. (1) | F 10 |
| Boleij J.S.M. (2) | NL 13, NL 15 |
| Boman C.A. (1) | S 3 |
| Borrego C. (1) | P 1 |

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| Braathen O.-A. (1) | N 14 |
| Brandt J.H.M. (1) | DK 21 |
| Bratsberg G. (1) | N 4 |
| Breums N.O. (2) | DK 11, DK 14 |
| Brown P.W. (1) | GB 25 |
| Brunekreef B. (2) | NL 14, NL 15 |
| Burge S. (4) | GB 34, GB 35, GB 36, GB 37 |
| Burkart W. (2) | CH 3, CH 5 |
| Buty D. (1) | F 40 |
| Cailleux A. (1) | F 4 |
| Cammann K. (5) | D 10, D 12, D 18, D 23, D 35 |
| Campos-Venuti G. (4) | I 5, I 11, I 13, I 14 |
| Capra D. (2) | I 15, I 16 |
| Cherrie J. (1) | GB 30 |
| Cluzel D. (1) | F 34 |
| Cochet C. (1) | F 38 |
| Cornelis (1) | B 2 |
| Crameri R. (2) | CH 3, CH 5 |
| Crockford G.W. (1) | GB 4 |
| Crump D. (2) | GB 2, GB 24 |
| Cullen R.T. (2) | GB 28, GB 33 |
| Danuser B. (1) | CH 14 |
| De Bortoli M. (5) | CEC 1, CEC 2, CEC 5, CEC 6, CEC 7 |
| De Gids W.F. (3) | NL 8, NL 9, NL 12 |
| Donaldson K. (2) | GB 13, GB 32 |
| Donati M. (5) | F 20, F 21, F 22, F 23, F 24 |
| Dubbeld M. (2) | NL 5, NL 6 |
| Dybendal T. (3) | N 11, N 12, N 13 |
| Egedorf M. (3) | DK 23, DK 24, DK 27 |

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| Ekstrand-Tobin A. (1) | S 17 |
| Elixmann J.H. (1) | D 24 |
| Elsayed S. (3) | N 11, N 12, N 13 |
| Enflo A. (1) | S 11 |
| Englert N. (1) | D 8 |
| Falk R. (2) | S 12, S 13 |
| Fanger P.O. (4) | DK 31, DK 32, DK 33, DK 34 |
| Fast T. (1) | NL 16 |
| Faugere J.G. (1) | F 2 |
| Faust M. (1) | D 18 |
| Federolf H.-A. (1) | D 37 |
| Ferraroli R. (1) | I 1 |
| Festy B. (5) | F 18, F 29, F 30, F 32, F 43 |
| Feuilhade de Chanvin M. (1) | F 8 |
| Filleux C. (1) | CH 6 |
| Fischer M. (1) | D 9 |
| Forastiere F. (1) | I 12 |
| Franke L. (1) | D 34 |
| Galvao J.P. (2) | P 2, P 3 |
| Gans I. (1) | D 39 |
| Gardiner D. (2) | GB 2, GB 24 |
| Gay J.B. (1) | CH 7 |
| Gebefuegi I. (1) | D 15 |
| Glaser U. (2) | D 13, D 21 |
| Gostomzyk J. (1) | D 20 |
| Grande L.B. (1) | N 5 |
| Gratza Th. (1) | D 20 |
| Groemping A. (1) | D 12 |
| Gustafsson H. (4) | S 16, S 18, S 19, S 20 |
| Gustafsson L. (2) | S 25, S 26 |

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| Gyntelberg. (1) | DK 7 |
| Hagberg N. (1) | S 1 |
| Hentschel W. (1) | D 47 |
| Heussen G.A.H. (2) | NL 7, NL 10 |
| Heyder J. (1) | D 16 |
| Hochrainer D. (1) | D 14 |
| Hofer P. (1) | CH 8 |
| Hohmannr (1) | D 43 |
| Hubbard L. (3) | S 1, S 2, S 11 |
| Huebner K. (1) | D 23 |
| Huelse C. (1) | D 45 |
| Hurley J.F. (1) | GB 29 |
| Ickovic M.-R. (1) | F 36 |
| Jentoft N.A. (1) | N 1 |
| Johansson I. (3) | S 21, S 22, S 23 |
| Johnsen C. (5) | DK 16, DK 17, DK 18, DK 19, DK 20 |
| Jones P.J. (2) | GB 3, GB 15 |
| Kalker U. (1) | D 47 |
| Kaulbach S. (1) | D 46 |
| Kehl S. (1) | CH 2 |
| Keller G. (3) | D 25, D 28, D 30 |
| Kirchner S. (1) | F 37 |
| Knoeppel H. (2) | CEC 3, CEC 4 |
| Knoll B. (1) | NL 11 |
| Knoll K. (1) | D 32 |
| Knudsen F.E. (1) | DK 22 |
| Korte F. (1) | D 17 |
| Kouimtzis Th. (1) | GR 5 |
| Krause C. (1) | D 6 |

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| Kreyung W.G. (1) | D 16 |
| Kritidis P. (1) | GR 2 |
| Lanting R.W. (3) | NL 28, NL 29, NL 30 |
| Laurent A.M. (1) | F 32 |
| Lemaire A.D. (2) | NL 24, NL 26 |
| Lenvik K. (1) | N 18 |
| Lester J.N. (3) | GB 5, GB 20, GB 21 |
| Leupen M. (1) | NL 30 |
| Levsen K. (1) | D 40 |
| Liden E. (1) | S 24 |
| Lindvall T. (9) | S 21, S 22, S 23, S 24, S 25, S26, S 27, S 28, S 29 |
| Loewenstein J.Cl. (2) | F 1, F 33 |
| Loizidou M. (1) | GR 7 |
| Love R.G. (1) | GB 31 |
| MacLaren M. (1) | GB 17 |
| Majborn B. (2) | DK 25, DK 26 |
| Maroni M. (5) | I 8, I 17, I 18, I 19, I 20 |
| Mathisen H.M. (1) | N 3 |
| McLaughlin J.P. (1) | IRL 1 |
| Melia J. (1) | GB 1 |
| Meyer E. (1) | D 42 |
| Meyer U. (1) | D 10 |
| Millet J.R. (2) | F 27, F 41 |
| Mjoenes L. (2) | S 14, S 15 |
| Moelhave L. (5) | DK 5, DK 9, DK 10, DK 13, DK 29 |
| Molina Cl. (1) | F 7 |
| Monchaux G. (1) | F 12 |
| Morin M. (1) | F 12 |
| Moriske H.-J. (1) | D 27 |

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| Morkowski J. (1) | CH 8 |
| Morlier J.P. (1) | F 12 |
| Mouilleseaux A. (1) | F 30 |
| Nardi G. (1) | I 10 |
| Nava C. (1) | I 6 |
| Neusr (1) | D 11 |
| Nicolaas H.J. (2) | NL 23, NL 25 |
| Nielsen G.D. (2) | DK 2, DK 3 |
| Nielsen P. (4) | DK 7, DK 8, DK 29, DK 30 |
| Nielsen P.A. (2) | S 16, S 20 |
| Norlen U. (1) | S 5 |
| Novakovic V. (1) | N 2 |
| O'Sullivan P.E. (1) | GB 3 |
| Oldengarm J. (2) | NL 19, NL 20 |
| Pandi-Agatokli W. (1) | GR 4 |
| Papachristou E. (1) | GR 3 |
| Papastefanou C. (1) | GR 1 |
| Parfait C. (2) | F 43, F 44 |
| Patroni M. (1) | I 7 |
| Pauli G. (1) | F 3 |
| Peitsman H.C. (1) | NL 21 |
| Pelletret R. (1) | F 28 |
| Perrin M.-L. (1) | F 16 |
| Perry R. (3) | GB 5, GB 20, GB 21 |
| Person A. (2) | F 18, F 32 |
| Petersen O.H. (1) | DK 12 |
| Piermattei S. (1) | I 13 |
| Poffijn (3) | B 1, B 2, B 3 |
| Prentice J. (1) | GB 8 |

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| Proteau J. (1) | F 6 |
| Proukakis X. (1) | GR 6 |
| Queirazza G. (2) | I 15, I 16 |
| Rannou A. (1) | F 15 |
| Raw G. (4) | GB 9, GB 22, GB 26, GB 27 |
| Robertson A. (2) | GB 12, GB 14 |
| Roehnsch W. (1) | D 38 |
| Rolloos M. (2) | NL 2, NL 3 |
| Rood A.P. (1) | GB 11 |
| Rothweiler H. (2) | CH 1, CH 4 |
| Roulet C.A. (1) | CH 16 |
| Saarela K. (1) | SF 1 |
| Saganski H. (1) | D 5 |
| Samagaio A.J.B. (1) | P 1 |
| Sandberg M. (2) | S 6, S 7 |
| Sanders C.H. (1) | GB 23 |
| Schaefer. (1) | D 43 |
| Scherer G. (3) | D 1, D 2, D 4 |
| Schlatter Ch. (3) | CH 1, CH 2, CH 4 |
| Schneider T. (1) | DK 1 |
| Schuemann H. (1) | D 5 |
| Selenka F. (2) | D 29, D 31 |
| Skaeret E. (1) | N 9 |
| Sloiml (1) | F 35 |
| Squinazi F. (1) | F 30 |
| Stranger-Johannessen M. (2) | N 15, N 16 |
| Styrme H. (4) | S 4, S 8, S 9, S 10 |
| Suter P. (1) | CH 15 |
| Swedjemark G.A. (2) | S 1, S 3 |

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| Teeuw K.B. (1) | NL 1 |
| ter Kuile W.M. (1) | NL 4 |
| Toetsch W. (1) | D 22 |
| Tollefsen T.G. (1) | N 17 |
| Uglow C. (1) | GB 6 |
| Urbanek R. (1) | D 3 |
| Uyttenhove (2) | B 2, B 3 |
| Valavanidis A. (1) | GR 8 |
| van Bronswijk J.E.M.H. (1) | NL 18 |
| van der Wal J.F. (2) | NL 5, NL 29 |
| van Dijk H.A.L. (1) | NL 22 |
| van Dongen J.E.F. (1) | NL 17 |
| Van Laere (1) | B 3 |
| Vandenbroucke C.M.J.E. (1) | NL 1 |
| Viala A. (3) | F 11, F 13, F 19 |
| Villenave J.G. (1) | F 39 |
| Vorenkamp J. (1) | NL 18 |
| Vu Duc T. (1) | CH 9 |
| Wahn U. (1) | D 44 |
| Wanner H-U. (3) | CH 11, CH 12, CH 13 |
| Wedberg W.C. (2) | N 6, N 7 |
| Winter B. (1) | D 12 |
| Wolkoff P. (7) | DK 4, DK 6, DK 7, DK 8, DK 19, DK 29, DK 30 |
| Wooliscroft M. (2) | GB 7, GB 10 |
| Wozniak S.J. (2) | GB 6, GB 19 |
| Wyon D.P. (1) | S 4 |

7. DESCRIPTION OF ONGOING OR RECENTLY CONCLUDED PROJECTS

| | | |
|--|---|------------------------------------|
| <i>Institute, address:</i> Institute of Nuclear Physics Proeftuinstraat 86 B-9000 Gent Belgium | | a b B 1 |
| <i>Name of principal investigator:</i> Poffijn | | <i>Telephone No:</i> + 32-22 87 31 |
| <i>Descriptive project title:</i> Radon and lung cancer in the Ardennes and Eifel regions | | |
| <i>Keywords (see attached list) :</i> epidemiology, cancer, risk, assessment, radon | | |
| <i>Project start:</i> 1st January 1990 | <i>(Expected) project end:</i> 31st December 1995 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institute of Nuclear Physics Proeftuinstraat 86 B-9000 Gent Belgium | | a b B 2 |
| <i>Name of principal investigator:</i> Poffijn / Cornelis / Uyttenhove | | <i>Telephone No:</i> + 32-22 87 31 |
| <i>Descriptive project title:</i> Retrospective assessment of radon exposure from long lived decay products | | |
| <i>Keywords (see attached list) :</i> radon, exposure, dose, assessment | | |
| <i>Project start:</i> 1st May 1990 | <i>(Expected) project end:</i> 1st May 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institute of Nuclear Physics Proeftuinstraat 86 B-9000 Gent Belgium | | a b B 3 |
| <i>Name of principal investigator:</i> Uyttenhove / Poffijn / Van Laere | | <i>Telephone No:</i> + 32-22 87 31 |
| <i>Descriptive project title:</i> Radon in Belgium : inventarisation and remediation | | |
| <i>Keywords (see attached list) :</i> radon, dwellings, schools, representative survey, guidelines | | |
| <i>Project start:</i> 1st January 1991 | <i>(Expected) project end:</i> 1st January 1993 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

| | | |
|---|-------------------------------------|--|
| Institute, address: Commission of the European Communities Joint Research Centre Environment Institute I-21020 ISPRA (VARESE) Italy | | a |
| | | b CEC 1 |
| Name of principal investigator: Dr. Maurizio DE BORTOLI | | Telephone No: + 39-332 - 789230 |
| Descriptive project title: Development and performance of a thermally desorbable diffusion sampler | | |
| Keywords (see attached list): Measurement methods, sampling, passive samplers, VOC, analysis | | |
| Project start: 1986 | (Expected) project end: 1989 | |
| Estimated man power: 1 man year | Estimated cost: | |
| Institute, address: Commission of the European Communities Joint Research Centre Environment Institute I-21020 ISPRA (VARESE) Italy | | a |
| | | b CEC 2 |
| Name of principal investigator: Dr. Maurizio DE BORTOLI | | Telephone No: + 39-332 - 789230 |
| Descriptive project title: Method development for the determination of VOC emission rates from building/furnishing materials and household products by small test chambers. | | |
| Keywords (see attached list): Measurement methods, chamber study, building materials, household products, VOC, sampling, analysis, product characterization. | | |
| Project start: 1988 | (Expected) project end: 1990 | |
| Estimated man power: 2 man year | Estimated cost: | |
| Institute, address: Commission of the European Communities Joint Research Centre Environment Institute I-21020 ISPRA (VARESE) Italy | | a |
| | | b CEC 3 |
| Name of principal investigator: Dr. Helmut KNÖPPEL | | Telephone No: + 39-332 - 789204 |
| Descriptive project title: Follow-up study of VOC concentrations in a home sample in Northern Italy. | | |
| Keywords (see attached list): pollutants, VOC, field study, dwellings, concentrations, air infiltration, sampling, analysis | | |
| Project start: 1989 | (Expected) project end: 1990 | |
| Estimated man power: 0.5 man year | Estimated cost: | |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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| <i>Institute, address:</i> Commission of the European Communities Joint Research Centre Environment Institute I-21020 ISPRA (VARESE) Italy | | a |
| | | b CEC 4 |
| <i>Name of principal investigator:</i> Dr. Helmut KNÖPPEL | | <i>Telephone No:</i> + 39-332 - 789204 |
| <i>Descriptive project title:</i> Monitoring of VOC concentrations in some administrative buildings and investigations on possible links with occupant complaints | | |
| <i>Keywords (see attached list):</i> pollutants, VOC, concentration, offices, complaints, occupants, field study, ventilation | | |
| <i>Project start:</i> 1986 | | <i>(Expected) project end:</i> 1991 |
| <i>Estimated man power:</i> 15 man year | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Commission of the European Communities Joint Research Centre Environment Institute I-21020 ISPRA (VARESE) Italy | | a |
| | | b CEC 5 |
| <i>Name of principal investigator:</i> Dr. Maurizio DE BORTOLI | | <i>Telephone No:</i> + 39-332 - 789230 |
| <i>Descriptive project title:</i> Organization of an international interlaboratory comparison of the determination of VOC emissions from various materials using small environmental chambers | | |
| <i>Keywords (see attached list):</i> interlaboratory comparison, emissions, determination, VOC, chamber study | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Commission of the European Communities Joint Research Centre Environment Institute I-21020 ISPRA (VARESE) Italy | | a |
| | | b CEC 6 |
| <i>Name of principal investigator:</i> Dr. Maurizio DE BORTOLI | | <i>Telephone No:</i> + 39-332 - 789230 |
| <i>Descriptive project title:</i> Chamber study of the adsorption of VOC on various indoor materials | | |
| <i>Keywords (see attached list):</i> adsorption, determination, VOC, building materials, chamber study | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1993 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA
CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|--|
| <i>Institute, address:</i> Commission of the European Communities Joint Research Centre Environment Institute I-21020 ISPRA (VARESE) Italy | | a |
| | | b CEC 7 |
| <i>Name of principal investigator:</i> Dr. Maurizio DE BORTOLI | | <i>Telephone No:</i> + 39-332 - 789230 |
| <i>Descriptive project title</i> Development and application of a sampling and analytical method for semi-volatile and particle bound organic indoor pollutants using combined supercritical fluid extraction - gas chromatography | | |
| <i>Keywords (see attached list) :</i> SVOC, POM, sampling, analysis, development, measurements | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1994 |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> | | a |
| | | b |
| <i>Name of principal investigator:</i> | | <i>Telephone No:</i> |
| <i>Descriptive project title:</i> | | |
| <i>Keywords (see attached list) :</i> | | |
| <i>Project start:</i> | | <i>Expected project end:</i> |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> | | a |
| | | b |
| <i>Name of principal investigator:</i> | | <i>Telephone No:</i> |
| <i>Descriptive project title:</i> | | |
| <i>Keywords (see attached list) :</i> | | |
| <i>Project start:</i> | | <i>Expected project end:</i> |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|--|---------------------------------------|
| <i>Institute, address:</i> Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a b DK 1 |
| <i>Name of principal investigator:</i> Thomas Schneider | | <i>Telephone No:</i> + 45 31 29 97 11 |
| <i>Descriptive project title:</i> Experimental determination of deposition velocity of particles in eyes (in co-operation with Technical University, Lund, Sweden). | | |
| <i>Keywords (see attached list):</i> PM, deposition, velocities, eye examination, air velocity | | |
| <i>Project start:</i> September 1990 | <i>(Expected) project end:</i> December 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a b DK 2 |
| <i>Name of principal investigator:</i> Gunnar Damgård Nielsen | | <i>Telephone No:</i> + 45-31 299 711 |
| <i>Descriptive project title:</i> Biological determination of emission of irritants from paint and lacquer | | |
| <i>Keywords (see attached list):</i> pollutants, paints, irritation, methods, bioassay, mice | | |
| <i>Project start:</i> Autumn 1989 | <i>(Expected) project end:</i> Spring 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a b DK 3 |
| <i>Name of principal investigator:</i> Gunnar Damgård Nielsen | | <i>Telephone No:</i> + 45-31 299 711 |
| <i>Descriptive project title:</i> Animal assays for upper airway irritation : screening of materials and structure-activity relations | | |
| <i>Keywords (see attached list):</i> review, sources, emissions, irritation, airway, methods, bioassay, mice, QSAR | | |
| <i>Project start:</i> Autumn 1990 | <i>(Expected) project end:</i> Spring 1991 | |
| <i>Estimated man power:</i> 1 M/Y | <i>Estimated cost:</i> | |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA
CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

| | | |
|--|--|--|
| <i>Institute, address:</i> Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a b DK 4 |
| <i>Name of principal investigator:</i> P. Wolkoff | | <i>Telephone No:</i> + 45.31 29 97 11 |
| <i>Descriptive project title:</i> The Danish twin apartment study; part I: formaldehyde and long term VOC measurements. A joint project | | |
| <i>Keywords (see attached list):</i> formaldehyde, VOC, dwellings, measurements, building materials | | |
| <i>Project start:</i> September 1987 | | <i>(Expected) project end:</i> December 1990 |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Institute of Environmental and Occupational Medicine University of Aarhus Bulding 180, Universitetsparken DK-8000 Aarhus C | | a b DK 5 |
| <i>Name of principal investigator:</i> Lars Mølhave | | <i>Telephone No:</i> + 45- 86 12 82 88 |
| <i>Descriptive project title:</i> The Danish twin apartment study; part II: a study of (a) the relative source strength of VOC originating from building materials and other sources in homes ; (b) mathematical models for exposure concentrations | | |
| <i>Keywords (see attached list):</i> emissions, VOC, building materials, human activities, models, exposure, field study, measurements | | |
| <i>Project start:</i> 1988 | | <i>(Expected) project end:</i> 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a b DK 6 |
| <i>Name of principal investigator:</i> P. Wolkoff | | <i>Telephone No:</i> + 45.31 29 97 11 |
| <i>Descriptive project title:</i> Mucuous irritation and odour problems caused by modern office environment under controlled conditions. A joint project. | | |
| <i>Keywords (see attached list):</i> chamber study, emissions, offices, building equipment, VOC, odours, irritation, eye examination | | |
| <i>Project start:</i> December 1990 | | <i>(Expected) project end:</i> June 1991 |
| <i>Estimated man power:</i> 5 MY | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a b DK 7 |
| <i>Name of principal investigator:</i> P. Wolkoff / P. Nielsen / Gyntelberg | | <i>Telephone No:</i> + 45.31 29 97 11 |
| <i>Descriptive project title:</i> Characterization of particulates and the immunological effect. A joint project. | | |
| <i>Keywords (see attached list):</i> PM, POM, immunological effects | | |
| <i>Project start:</i> January 1990 | <i>(Expected) project end:</i> end of 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a b DK 8 |
| <i>Name of principal investigator:</i> P. Wolkoff / P. Nielsen | | <i>Telephone No:</i> + 45.31 29 97 11 |
| <i>Descriptive project title:</i> Long term emission of VOCs from waterborne paints - a comparison of methods | | |
| <i>Keywords (see attached list):</i> emission, VOC, paints, waterborne, models, methods, comparison | | |
| <i>Project start:</i> 1985 | <i>(Expected) project end:</i> January 1990 | |
| <i>Estimated man power</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institute of Environmental and Occupational Medicine Aarhus Universitet Bygn. 180, Universitetsparken DK - 8000 Aarhus C. | | a b DK 9 |
| <i>Name of principal investigator:</i> Lars Mølhave | | <i>Telephone No:</i> + 45 612 8288 |
| <i>Descriptive project title:</i> Mathematical models for indoor air pollution due to emissions from building material. Standard setting. | | |
| <i>Keywords (see attached list):</i> standards, emissions, VOC, building materials, models, concentrations | | |
| <i>Project start:</i> 01/1986 | <i>(Expected) project end:</i> 12/1989 | |
| <i>Estimated man power:</i> 1 MY | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--------------------------------------|--------------------------------|
| Institute, address: Institute of Environmental and Occupational Medicine Aarhus Universitet Bygn. 180, Universitetsparken DK - 8000 Aarhus C. | | a |
| | | b DK 10 |
| Name of principal investigator: Lars Mølhave | | Telephone No: 45 612 8288 |
| Descriptive project title: Development of dust exposure facilities in a climate chamber | | |
| Keywords (see attached list) : subjective evaluation, effects, sensory, pollutants, VOC | | |
| Project start: 1/1987 | (Expected) project end: 12/1988 | |
| Estimated man power: 1 MY | Estimated cost : | |
| Institute, address: Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a |
| | | b DK 11 |
| Name of principal investigator: N. O. Breums | | Telephone No: + 45 31 29 97 11 |
| Descriptive project title: Dilution versus displacement ventilation, a review | | |
| Keywords (see attached list) : review, ventilation, dilution, displacement, comparison | | |
| Project start: October 1990 | (Expected) project end: January 1991 | |
| Estimated man power | Estimated cost : | |
| Institute, address: Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Ø Denmark | | a |
| | | b DK 12 |
| Name of principal investigator: Ole Holm Petersen | | Telephone No: + 45 31 29 97 11 |
| Descriptive project title: Particulate surface contamination at industrial and non-industrial workplaces | | |
| Keywords (see attached list) : pollution, PM, surfaces, sampling, strategies, measurement methods | | |
| Project start: April 1990 | (Expected) project end: April 1993 | |
| Estimated man power: | Estimated cost : | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

| | | |
|---|---------------------------------------|--------------------------------|
| Institute, address: Institute of Environmental and Occupational Medicine University of Aarhus Building 180, Universitetsparken DK-8000 Aarhus C | | a b DK 13 |
| Name of principal investigator: Lars Mølhave | | Telephone No: + 45-86 12 82 88 |
| Descriptive project title: Pilot study on controlled facilities for human exposure to dust | | |
| Keywords (see attached list) : PM, house dust, fibres, MMMF, controlled exposure | | |
| Project start: 1988 | (Expected) project end: 1992 | |
| Estimated man power: | Estimated cost: | |
| Institute, address: National Institute of Occupational Health Lersø Parkalle 105 DK-2100 Copenhagen Denmark | | a b DK 14 |
| Name of principal investigator: N.O. Breums | | Telephone No: + 45 31 299711 |
| Descriptive project title: Eddy diffusion of indoor air pollutants | | |
| Keywords (see attached list) : sources, pollutants, control, air movement, spatial variations, chamber study, measurement, models | | |
| Project start: January 1991 | (Expected) project end: December 1991 | |
| Estimated man power: | Estimated cost: | |
| Institute, address: SBI-Danish Building Research Institute P.O. Box 119 DK - 2970 Horsholm | | a b DK 15 |
| Name of principal investigator: Niels Bergsoe | | Telephone No: + 45-286 5533 |
| Descriptive project title: Investigations of air change rates and air quality in occupied buildings. | | |
| Keywords (see attached list) : control techniques, ventilation, pollution | | |
| Project start: 10/1987 | (Expected) project end: 04/1989 | |
| Estimated man power: 2 MY | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|---|------------------|
| <i>Institute, address:</i> Allergy Unit 7511 Medical Dept. TTA State University Hospital Tagensvej 20 DK-2200 Copenhagen N | | Danish National Institute of Occupational Health Lersø Parkhalle 105 DK-2100 Copenhagen Denmark | a b DK 19 |
| <i>Name of principal investigator:</i> Claus Johnsen, M.D. / P. Wolkoff | | <i>Telephone No:</i> + 45 31 38 66 33, ext. 7589 | |
| <i>Descriptive project title:</i> Controlled human reactions to building materials in climatic chambers. Part II: VOC measurements, mouse, bioassay and decipol evaluation in the 1 - 2 mg/m ³ TVOC range | | | |
| <i>Keywords (see attached list):</i> emissions, building materials, paints, HCHO, VOC, asthma, nasal function, sensory effects, SBS, investigation, controlled exposure, chamber study | | | |
| <i>Project start:</i> September 1989 | | <i>(Expected) project end:</i> March 1990 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Allergy Unit 7511, Medical Dept. TTA State University Hospital Tagensvej 20 DK-2200 Copenhagen N | | a b DK 20 | |
| <i>Name of principal investigator:</i> Claus Johnsen, M.D. | | <i>Telephone No:</i> + 45 31 38 66 33, ext. 7589 | |
| <i>Descriptive project title:</i> Ionizers in the treatment of nocturnal asthma | | | |
| <i>Keywords (see attached list):</i> effects, asthma, diurnal variations, ions, control techniques | | | |
| <i>Project start:</i> 1st June 1989 | | <i>(Expected) project end:</i> 1st March 1989 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Occupational Health Service Aarhus Syd Kongsvang Alle 25 DK-8000 Aarhus C Denmark | | a b DK 21 | |
| <i>Name of principal investigator:</i> Jens H.M Brandt | | <i>Telephone No:</i> + 45 86 27 54 84 | |
| <i>Descriptive project title:</i> A prospective epidemiological study of intervention in sick buildings | | | |
| <i>Keywords (see attached list):</i> SBS, epidemiological study, intervention, heat, dust, ventilation, questionnaire | | | |
| <i>Project start:</i> 1st January 1989 | | <i>(Expected) project end:</i> 1st September 1991 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

| | | |
|---|--|---------------------------------------|
| <i>Institute, address:</i> Danish Technological Institute Teknologiparken DK-8000 Aarhus C Denmark | | a b DK 22 |
| <i>Name of principal investigator:</i> F. Egtoft Knudsen | | <i>Telephone No:</i> + 45 86 92 14 57 |
| <i>Descriptive project title:</i> Indoor climate data base | | |
| <i>Keywords (see attached list):</i> data base, climate | | |
| <i>Project start:</i> January 1990 | <i>(Expected) project end:</i> December 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Danish Technological Institute Dept. of Building Technology P.O. Box 141 DK - 2630 Taastrup | | a b DK 23 |
| <i>Name of principal investigator:</i> Morten Egedorf | | <i>Telephone No:</i> + 45 42.99 66.11 |
| <i>Descriptive project title:</i> Demand controlled simplified mechanical ventilation in single family dwellings | | |
| <i>Keywords (see attached list):</i> energy conservation, field study, control techniques, forced ventilation, dwellings | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> December 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Danish Technological Institute Dept. of Building Technology P.O. Box 141 DK - 2630 Taastrup | | a b DK 24 |
| <i>Name of principal investigator:</i> Morten Egedorf | | <i>Telephone No:</i> + 45 42.99.66.11 |
| <i>Descriptive project title:</i> Demonstration of natural ventilation in houses with moisture controlled air inlets and storm protection. Measurements with tracer gas. | | |
| <i>Keywords (see attached list):</i> dwellings, control techniques, natural ventilation, moisture, condensation, measurements, tracer gas | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> December 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN", (COST 613)
PROJECT INVENTORY

| | | |
|---|--|---|
| <i>Institute, address:</i> Department of Nuclear Safety Research Health Physics Section Risø National Laboratory DK-4000 Roskilde | | a b DK 25 |
| <i>Name of principal investigator:</i> Benny Majborn | | <i>Telephone No:</i> + 45 42 37 12 12 |
| <i>Descriptive project title:</i> Studies of variations of radon concentrations in single-family houses | | |
| <i>Keywords (see attached list) :</i> radon, concentrations, variations, seasonal variations, dwellings, measurements | | |
| <i>Project start:</i> April 1990 | | <i>(Expected) project end:</i> March 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> - |
| <i>Institute, address:</i> Department of Nuclear Safety Research Health Physics Section Risø National Laboratory DK-4000 Roskilde | | a b DK 26 |
| <i>Name of principal investigator:</i> Benny Majborn | | <i>Telephone No:</i> + 45 42 37 12 12 |
| <i>Descriptive project title:</i> Modelling of radon entry into buildings and related experimental studies | | |
| <i>Keywords (see attached list) :</i> radon, soil characteristics, buildings, air movement, measurements, models, validation | | |
| <i>Project start:</i> April 1990 | | <i>(Expected) project end:</i> March 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Danish Technological Institute, Dept. for Building Technology, P.O. Box 141, <u>DK - 2630 Tastrup</u> | | a b DK 27 |
| <i>Name of principal investigator:</i> Morten Egdorf | | <i>Telephone No:</i> + 45 42 99 66 11 |
| <i>Descriptive project title:</i> Energy saving by requirement controlled ventilation | | |
| <i>Keywords (see attached list) :</i> ventilation, energy conservation | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 12/1991 |
| <i>Estimated man power:</i> 0.3MY | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Danish Environmental Centre A/S Smedeskovvej 38 <u>DK-8464 Galten</u> | | a b DK 28 |
| <i>Name of principal investigator:</i> Sv. Aa. Linde/Lene Hansen | | <i>Telephone No:</i> + 45-06-94.42.66 |
| <i>Descriptive project title:</i> Emission of amines and organic acids from building materials. Development of test and analytical methods. | | |
| <i>Keywords (see attached list) :</i> building materials, concentrations, exposure, pollutants, emissions, sources, SVOC, VOC | | |
| <i>Project start:</i> January 1987 | | <i>(Expected) project end:</i> June 1989 |
| <i>Estimated man power:</i> 3 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Danish National Institute of Occupational Health Baunegaardsvej 73 <u>DK - 2900 Hellerup</u> | | a b DK 29 |
| <i>Name of principal investigator:</i> P.Wolkoff / P. Nielsen / L. Mølhave | | <i>Telephone No:</i> + 45-31-29.97.11 |
| <i>Descriptive project title:</i> The twin apartment study | | |
| <i>Keywords (see attached list) :</i> VOC, models, HCHO, ventilation, building materials, chamber study | | |
| <i>Project start:</i> 09/1987 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> 4MY | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Danish National Institute of Occupational Health Baunegaardsvej 73 <u>DK - 2900 Hellerup</u> | | a b DK 30 |
| <i>Name of principal investigator:</i> P.Wolkoff/P.Nielsen | | <i>Telephone No:</i> + 45-31-29.97.11 |
| <i>Descriptive project title:</i> Cryogenic trapping of VOC | | |
| <i>Keywords (see attached list) :</i> VOC, methods, sampling | | |
| <i>Project start:</i> 01/1988 | | <i>(Expected) project end:</i> 01/1989 |
| <i>Estimated man power:</i> 1MY | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|--|--|
| <i>Institute, address:</i> Laboratory of Heating and Air Conditioning Technical University of Denmark Building 402 A DK-2800 Lyngby | | a |
| | | b DK 31 |
| <i>Name of principal investigator:</i> P.O.Fanger | | <i>Telephone No:</i> + 45 42 88 46 22 |
| <i>Descriptive project title:</i> Air pollution sources in ventilation systems | | |
| <i>Keywords (see attached list) :</i> ACS, sources, pollution, sensory effects | | |
| <i>Project start:</i> 01/1988 | | <i>(Expected) project end:</i> 07/1990 |
| <i>Estimated man power:</i> 5 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Laboratory of Heating and Air Conditioning Technical University of Denmark Building 402 A DK-2800 Lyngby | | a |
| | | b DK 32 |
| <i>Name of principal investigator:</i> P.O.Fanger | | <i>Telephone No:</i> 45 42 88 46 22 |
| <i>Descriptive project title:</i> Ventilation requirements in buildings | | |
| <i>Keywords (see attached list) :</i> ventilation, buildings, sensory effects, measurements, standards | | |
| <i>Project start:</i> 07/1987 | | <i>(Expected) project end:</i> 09/1992 |
| <i>Estimated man power:</i> 5 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Laboratory of Heating and Air Conditioning Technical University of Denmark Building 402 A DK-2800 Lyngby | | a |
| | | b DK 33 |
| <i>Name of principal investigator:</i> P.O.Fanger | | <i>Telephone No:</i> 45 42 88 46 22 |
| <i>Descriptive project title:</i> Olf-values for materials | | |
| <i>Keywords (see attached list) :</i> database, pollution, sensory effects, models, source, subjective evaluation | | |
| <i>Project start:</i> 01/1988 | | <i>(Expected) project end:</i> 12/1990 |
| <i>Estimated man power:</i> 4MY | | <i>Estimated cost:</i> |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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|--|--|---------------------------------|
| Institute, address: Laboratory of Heating and Air Conditioning Technical University of Denmark Building 402 DK-2800 Lyngby | | a |
| | | b DK 34 |
| Name of principal investigator: P.O. Fanger | | Telephone No: + 45-45-93.11.99 |
| Descriptive project title: Olf values in ventilation systems and the impact of cleaning | | |
| Keywords (see attached list) : ventilation system, pollution, cleaning, sensory effects | | |
| Project start: 01/1991 | | (Expected) project end: 12/1991 |
| Estimated man power : 1 M/Y | | Estimated cost: |
| Institute, address: | | a |
| | | b |
| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: . | | (Expected) project end: |
| Estimated man power : | | Estimated cost: |
| Institute, address: | | a |
| | | b |
| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | | (Expected) project end: |
| Estimated man power : | | Estimated cost: |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|-------------------------------------|--|
| <i>Institute, address:</i> Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a b SF 1 |
| <i>Name of principal investigator:</i> Kristina Saarela | | <i>Telephone No:</i> + 358 - 0 - 4565292 |
| <i>Descriptive project title:</i> Investigation of Volatile Organic Compounds (VOC), Semivolatile Organic Compounds (SVOC), aldehydes and phenols emitted from building materials using a proposed Nordtest chamber method | | |
| <i>Keywords (see attached list):</i> emissions, building materials, aldehydes, SVOC, VOC, analysis, chamber study, detection methods, sampling, product characterization | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a b SF 2 |
| <i>Name of principal investigator:</i> Kristina Saarela | | <i>Telephone No:</i> + 358 - 0 - 4565292 |
| <i>Descriptive project title:</i> Investigation of the effects of temperature and humidity on the VOC concentrations in an office building | | |
| <i>Keywords (see attached list):</i> variations, VOC, offices, climate, sampling, analysis | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a b SF 3 |
| <i>Name of principal investigator:</i> Kristina Saarela | | <i>Telephone No:</i> + 358 - 0 - 4565292 |
| <i>Descriptive project title:</i> Investigation of the decrease of Volatile Organic Compounds and aldehydes during the first half year in an "intelligent" specially built new office building | | |
| <i>Keywords (see attached list):</i> variations, aldehydes, VOC, new buildings, offices, climate, ventilation, detection methods, sampling | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|--|-----------------------------------|
| Institute, address: Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a |
| | | b SF 4 |
| Name of principal investigator: Kristina Saarela | | Telephone No: + 358 - 0 - 4565292 |
| Descriptive project title: Volatile Organic Compounds in 30 day-care centres in Espoo | | |
| Keywords (see attached list) : building materials, VOC, day-care centres, detection methods, sampling, representative survey | | |
| Project start: 1990 | | (Expected) project end: 1991 |
| Estimated man power: | | Estimated cost: |
| Institute, address: Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a |
| | | b SF 5 |
| Name of principal investigator: Kristina Saarela | | Telephone No: + 358 - 0 - 4565292 |
| Descriptive project title: The relation of complaints and Volatile Organic Compounds in 50 office buildings; a study based on a survey | | |
| Keywords (see attached list) : VOC, offices, complaints, climate, measurements, detection methods, sampling | | |
| Project start: 1991 | | (Expected) project end: 1992 |
| Estimated man power: | | Estimated cost: |
| Institute, address: Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a |
| | | b SF 6 |
| Name of principal investigator: Kristina Saarela | | Telephone No: + 358 - 0 - 4565292 |
| Descriptive project title: Establishing a data base of emissions from building materials measured in Nordic chamber studies | | |
| Keywords (see attached list) : emissions, building materials, paints, aldehydes, VOC, SVOC, chamber study, data base, detection methods, sampling, product characterization | | |
| Project start: 1990 | | (Expected) project end: 1991 |
| Estimated man power: | | Estimated cost: |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a |
| | | b SF 7 |
| <i>Name of principal investigator:</i> Kristina Saarela | | <i>Telephone No:</i> + 358 - 0 - 4565292 |
| <i>Descriptive project title:</i> A comparative study of emissions from building materials and paints used in the renovation of dwellings | | |
| <i>Keywords (see attached list):</i> emissions, variations, building materials, paints, aldehydes, VOC, chamber study, database, detection methods, representative survey, sampling, product characterization | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a |
| | | b SF 8 |
| <i>Name of principal investigator:</i> Kristina Saarela | | <i>Telephone No:</i> + 358 - 0 - 4565292 |
| <i>Descriptive project title:</i> A study of chemical compounds in the air of dwellings subject to complaints | | |
| <i>Keywords (see attached list):</i> emissions, variations, sources, building materials, aldehydes, ammonia, SVOC, VOC, dwellings, new buildings, complaints, analysis, measurements | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a |
| | | b SF 9 |
| <i>Name of principal investigator:</i> Erik Sandell | | <i>Telephone No:</i> + 358 - 0 - 45 65 374 |
| <i>Descriptive project title:</i> Chloroalkanes on Tenax. Intercalibration for certification of known amounts of three chloroalkanes on a Tenax batch available from BCR | | |
| <i>Keywords (see attached list):</i> validation, analysis, halogenated HC, interlaboratory comparison, standards | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Technical Research Centre of Finland Chemical Laboratory P.O. Box 204 SF-02151 Espoo | | a b SF 10 |
| <i>Name of principal investigator:</i> Erik Sandell | | <i>Telephone No:</i> + 358 - 0 - 45 65 374 |
| <i>Descriptive project title:</i> Evaluation and discussion of the results of an intercomparison exercise on PAH solutions | | |
| <i>Keywords (see attached list) :</i> analysis, validation, evaluation, interlaboratory comparison, PAH | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> National Public Health Institute Department of Environmental Hygiene and Toxicology P.O. Box 95 SF-70701 Kuopio | | a b SF 11 |
| <i>Name of principal investigator:</i> Dr. Matti J. Jantunen | | <i>Telephone No:</i> + 358 71 201 340 |
| <i>Descriptive project title:</i> Development of a trained panel for judging perceived air quality in buildings and material emissions in the laboratory by the Olf-method | | |
| <i>Keywords (see attached list) :</i> SBS, odours, trained panel, sensory effects, subjective evaluation, development | | |
| <i>Project start:</i> 01.04.1990 | <i>(Expected) project end:</i> 31.03.1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Helsinki University of Technology Laboratory of Heating, Ventilating and Air Conditioning Otakaari 4, SF-02150 Espoo | | a b SF 12 |
| <i>Name of principal investigator:</i> Mervi Hujanen / Olli Seppänen | | <i>Telephone No:</i> + 358.0.451 35 98 |
| <i>Descriptive project title:</i> Air-conditioning system as the source of contaminants | | |
| <i>Keywords (see attached list) :</i> sources, ventilation, ACS, odours, pollutants | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Helsinki University of Technology Laboratory of Heating, Ventilating and Air Conditioning Otakaari 4, SF-02150 Espoo | | a b SF 13 |
| <i>Name of principal investigator:</i> Krzysztof Klobut / Olli Seppänen | | <i>Telephone No:</i> + 358.0.451 36 08 |
| <i>Descriptive project title:</i> Computer program for calculating the airflows and contaminant concentrations in multizone buildings | | |
| <i>Keywords (see attached list) :</i> models, multizonal, air movement, pollutants, concentrations | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Helsinki University of Technology Laboratory of Heating, Ventilating and Air Conditioning Otakaari 4, SF-02150 Espoo | | a b SF 14 |
| <i>Name of principal investigator:</i> Jouni J.K. Jaakkola / Olli Seppänen | | <i>Telephone No:</i> + 358.0.451 36 08 |
| <i>Descriptive project title:</i> Day-care centre environment and health | | |
| <i>Keywords (see attached list) :</i> day-care centre, climate, pollution, infections, allergy | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1993 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Helsinki University of Technology Laboratory of Heating, Ventilating and Air Conditioning Otakaari 4, SF-02150 Espoo | | a b SF 15 |
| <i>Name of principal investigator:</i> Jouni J.K. Jaakkola / Olli Seppänen | | <i>Telephone No:</i> + 358.0.451 36 09 |
| <i>Descriptive project title:</i> The effects of air humidification on symptoms and perceived air quality in office workers. A six period cross-over study | | |
| <i>Keywords (see attached list) :</i> humidification, pollution, climate, ventilation, health, sensory effects, offices | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|-------------------------------------|--|
| <i>Institute, address:</i> Helsinki University of Technology Laboratory of Heating, Ventilating and Air Conditioning Otakaari 4, SF-02150 Espoo | | a b SF 16 |
| <i>Name of principal investigator:</i> Risto Ruotsalainen / Olli Seppänen | | <i>Telephone No:</i> + 358.0.451 36 10 |
| <i>Descriptive project title:</i> Symptoms and perceived air quality in occupants of houses and apartments with different ventilation systems | | |
| <i>Keywords (see attached list):</i> ventilation, comparison, sensory effects, symptoms, subjective evaluation, dwellings | | |
| <i>Project start:</i> 1986 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Helsinki University of Technology Laboratory of Heating, Ventilating and Air Conditioning Otakaari 4, SF-02150 Espoo Finland | | a b SF 17 |
| <i>Name of principal investigator:</i> Jouni J. K. Jaakkola / Olli Seppänen | | <i>Telephone No:</i> + 358.0.451 36 09 |
| <i>Descriptive project title:</i> The effects of air recirculation on symptoms and perceived air quality in office workers. A double-blind, four period cross-over study | | |
| <i>Keywords (see attached list):</i> air recirculation, health, subjective evaluation, sensory effects, offices | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> University of Kuopio Department of Environmental Sciences P.O. Box 1627 SF-70211 Kuopio | | a b SF 18 |
| <i>Name of principal investigator:</i> Pentti Kalliokoski | | <i>Telephone No:</i> + 358-71-163150 |
| <i>Descriptive project title:</i> The house dust mite fauna and it's control by physical methods | | |
| <i>Keywords (see attached list):</i> mites, house dust, control, methods | | |
| <i>Project start:</i> 1991 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> 2.5 M/Y | <i>Estimated cost:</i> 200.000 FIM | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| Institute, address: University of Kuopio Dept. of Environmental Sciences P.O. Box 1627 SF-70211 Kuopio | | a |
| | | b SF 19 |
| Name of principal investigator: Anna-Liisa Pasanen / Tiina Reponen | | Telephone No: + 358-71-16.31.57 |
| Descriptive project title: Seasonal variations of fungal spore counts and genera in the office environment and outdoor air in Finland | | |
| Keywords (see attached list) : fungi, spores, concentrations, seasonal variations, indoor/outdoor ratios, offices | | |
| Project start: 1989 | (Expected) project end: 1990 | |
| Estimated man power: 1.5 M/Y | Estimated cost: 100.000 FIM | |
| Institute, address: University of Kuopio Dept. of Environmental Sciences P.O. Box 1627 SF-70211 Kuopio | | a |
| | | b SF 20 |
| Name of principal investigator: Anna-Liisa Pasanen | | Telephone No: + 358-71-163157 |
| Descriptive project title: Airborne bacteria and fungi in rural homes in Finland | | |
| Keywords (see attached list) : pollution, biological, aerosols, bacteria, fungi, concentrations, assessment | | |
| Project start: 1989 | (Expected) project end: 1990 | |
| Estimated man power: 1 M/Y | Estimated cost: 80.000 FIM | |
| Institute, address: University of Kuopio Dept. of Environmental Sciences P.O. Box 1627 SF-70211 Kuopio | | a |
| | | b SF 21 |
| Name of principal investigator: Anna-Liisa Pasanen | | Telephone No: + 358-71-163157 |
| Descriptive project title: Development of a sampling method for airborne mycotoxins | | |
| Keywords (see attached list) : mycotoxins, fungi, aerosols, sampling, methods, development | | |
| Project start: 1991 | (Expected) project end: 1992 | |
| Estimated man power: 1 M/Y | Estimated cost: 100.00 FIM | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN," (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> National Public Health Institute Dept. of Environmental Hygiene and Toxicology P.O. Box 95 SF-70701 Kuopio | | a |
| | | b SF 22 |
| <i>Name of principal investigator:</i> Pertti Pasanen | | <i>Telephone No:</i> + 358-71-201211 |
| <i>Descriptive project title:</i> Odorous and microbial problems caused by air-conditioning filters in office buildings | | |
| <i>Keywords (see attached list):</i> odours, microorganisms, sources, ACS, filter systems, offices | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> 2 M/Y | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> National Public Health Institute Dept. of Environmental Hygiene and Toxicology P.O. Box 95 SF-70701 Kuopio | | a |
| | | b SF 23 |
| <i>Name of principal investigator:</i> Juhani Ruuskanen / Pertti Pasanen | | <i>Telephone No:</i> + 358-71-201342 |
| <i>Descriptive project title:</i> Evaluation methods for dust accumulation in ventilation ducts | | |
| <i>Keywords (see attached list):</i> pollution, biological, pollen, VOC, PAH, ventilation system, evaluation, methods | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> National Public Health Institute Dept. of Environmental Hygiene and Toxicology P.O. Box 95 SF-70701 Kuopio | | a |
| | | b SF 24 |
| <i>Name of principal investigator:</i> Juhani Ruuskanen | | <i>Telephone No:</i> + 358-71-201342 |
| <i>Descriptive project title:</i> Microbial Activity and its effects on human health in buildings damaged by moisture | | |
| <i>Keywords (see attached list):</i> pollution, biological, day-care centres, dwellings, moisture, infection, allergy | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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| Institute, address: National Public Health Institute Dept. of Environmental Hygiene and Toxicology P.O. Box 95 SF-70701 Kuopio | | a |
| | | b SF 25 |
| Name of principal investigator: Juhani Ruuskanen / Pertti Pasanen | | Telephone No: + 358-71-201342 |
| Descriptive project title: Criteria for changing ventilation filters | | |
| Keywords (see attached list) : ventilation system, filter systems, microbial activity, VOC, PAH | | |
| Project start: 1990 | | (Expected) project end: 1992 |
| Estimated man power: | | Estimated cost: |
| Institute, address: University of Kuopio Dept. of Environmental Sciences P.O. Box 1627 SF-70211 Kuopio | | a |
| | | b SF 26 |
| Name of principal investigator: Juhani Ruuskanen | | Telephone No: + 358-71-201342 |
| Descriptive project title: Characterization of organic compounds associated with indoor dust | | |
| Keywords (see attached list) : house dust, pollution, organic, VOC, detection methods, adsorption | | |
| Project start: 1990 | | (Expected) project end: 1992 |
| Estimated man power: | | Estimated cost: |
| Institute, address: | | a |
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| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | | (Expected) project end: |
| Estimated man power: | | Estimated cost: |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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| <i>Institute, address:</i> ELECTRICITE DE FRANCE (EDF) avec Commissariat à l'Energie Atomique (C.E.A.) Direction des Etudes et Recherches Laboratoire d'Hygiène de la Ville de Paris (LHVP) 6 quai Watier Laboratoire National d'Essais F - 78401 Chatou Cedex | | a b F 1 |
| <i>Name of principal investigator:</i> J. Cl. Loewenstein | | <i>Telephone No:</i> + 33-1-30.87.76.12 |
| <i>Descriptive project title:</i> Indoor air pollution: sources inventory, measurement techniques development, emission factors characterisation, sanitary risks evaluation. | | |
| <i>Keywords (see attached list):</i> sources, measurements, exposure, emissions, inventory, methods, risk, assessment, development, chamber study, product characterization | | |
| <i>Project start:</i> 1988 | | <i>(Expected) project end:</i> 1990 |
| <i>Estimated man power:</i> 8 MY | | <i>Estimated cost:</i> F 1,600'000 |
| <i>Institute, address:</i> Centre de la Pierre Laboratoire Municipal de Bordeaux 17 quai de la Monnaie F - 33800 Bordeaux | | a b F 2 |
| <i>Name of principal investigator:</i> J. G. Faugere | | <i>Telephone No:</i> + 33-56.31.36.36 |
| <i>Descriptive project title:</i> Microbiological and fungal contaminations in buildings or flats at different steps of renovation. | | |
| <i>Keywords (see attached list):</i> biological, pollution, building, residences, renovation | | |
| <i>Project start:</i> 1988 | | <i>(Expected) project end:</i> 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Centre Hospitalier Régional Universitaire de Strasbourg Service de Pneumologie II Pavillon Laennec BP 421 F - 67091 Strasbourg Cédex | | a b F 3 |
| <i>Name of principal investigator:</i> Me G. Pauli | | <i>Telephone No:</i> + 33-88-16.17.18 |
| <i>Descriptive project title:</i> Indoor organic pollution from animal origin (Acarus) in relation to respiratory allergies in habitations. | | |
| <i>Keywords (see attached list):</i> biological, pollution, allergy, effects, respiratory | | |
| <i>Project start:</i> 1988 | | <i>(Expected) project end:</i> 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|---|---|
| <i>Institute, address:</i> Centre Hospitalier Regional Universitaire D'Angers (C.H.R.U.) Laboratoire de Pharmacologie et de Toxicologie Rue Larrey <u>F-49033 Angers Cedex</u> | | a b F 4 |
| <i>Name of principal investigator:</i> Prof. P. Allain and A. Cailleux | | <i>Telephone No:</i> + 33.41.35 36 42 |
| <i>Descriptive project title:</i> Identification and measurement of some volatile organic compounds in the indoor air of a freshly painted room during an eight week period | | |
| <i>Keywords (see attached list):</i> VOC, pollution, concentrations, buildings, paints, sampling, measurements | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Centre Hospitalier Régional Universitaire d'Angers (C.H.R.U.) Laboratoire de Pharmacologie et de Toxicologie Rue Larrey <u>F - 45040 Angers Cédex</u> | | a b F 5 |
| <i>Name of principal investigator:</i> Pr. P. Allain | | <i>Telephone No:</i> + 33-41.35.36.42 |
| <i>Descriptive project title:</i> Identification and determination of volatile organic compounds in the atmosphere of collective buildings and in the expired air of the inhabitants. | | |
| <i>Keywords (see attached list):</i> swimming-halls, schools, VOC, pollution, exposure, buildings, measurements, biological monitoring | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institut de Médecine du Travail avec: INSERM U. 139 Université Paris VI Laboratoire des Particules Inhalées (LEPI) Faculté de Médecine Broussais - Hôtel de Dieu 51, av. du Maréchal de Lattre de Tassigny <u>Ville de Paris</u> <u>F-94010 CRETEIL Cedex</u> | | a b F 6 |
| <i>Name of principal investigator:</i> Pr. J. Proteau | | <i>Telephone No:</i> + 33-1-42.34.82.34 |
| <i>Descriptive project title:</i> Reevaluation of asbestos exposure in relation to an exposed population in university buildings | | |
| <i>Keywords (see attached list):</i> buildings, schools, exposure, asbestos, epidemiology | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| Institute, address: Hôpital Sabourin Clinique de Pneumologie BP 125 F - 63020 Clermont Ferrand | | a |
| | | b F 7 |
| Name of principal investigator: Pr Cl. Molina | | Telephone No: + 33-72.26.83.25 |
| Descriptive project title: Sick building syndrome and air conditioning. | | |
| Keywords (see attached list) : ACS, SBS, effects | | |
| Project start: 1988 | (Expected) project end: 1990 | |
| Estimated man power: | Estimated cost: | |
| Institute, address INSERM U. 139 C.H.U. Henri Mondor 51, avenue du Maréchal de Lattre de Tassigny F - 94010 Créteil Cédex | | a |
| in collaboration with: CHU Saint-Antoine (Service Parasito-mycologie) | | b F 8 |
| Name of principal investigator: Dr Me M. Feuilhade de Chauvin | | Telephone No: + 33-1-49.81.21.11 |
| Descriptive project title: Development of methods for indoor fungal contamination | | |
| Keywords (see attached list) : methods,sampling, analysis,development,validation,pollutants,biological,funghi, buildings,hospitals,residences | | |
| Project start: 1988 | (Expected) project end: 1990 | |
| Estimated man power: | Estimated cost: | |
| Institute, address: Commissariat à l'Energie Atomiques (C.E.A.) Institut Protection Sanitaire BP n. 6 F - 92265 Fontenay aux Roses Cédex | | a |
| in collaboration with: Electricité de France (EDF) and Laboratoire d'Hygiène de la Ville de Paris (LHVP) | | b F 9 |
| Name of principal investigator: Mr F. Anguenot | | Telephone No: + 33-1-46.54.70.47. |
| Descriptive project title: Inventory of domestic pollution in relation to combustion, household products,odd jobs - measurement techniques | | |
| Keywords (see attached list) : methods,sampling, analysis,evaluation,pollutants,sources,combustion, household products,hobby products, buildings,residences | | |
| Project start: 1987 | (Expected) project end: 1990 | |
| Estimated man power: | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|---|-----------------|
| <i>Institute, address:</i> Association pour la Prévention de la Pollution Atmosphérique (APPA) Pays de Loire BP 527 <u>F - 44026 Nantes Cédex</u> | | Société d'Etudes des Risques Toxiques La Charterie Route de Gachel, BP 527, <u>F - 44026 Nantes Cédex 03</u> | a b F 10 |
| <i>Name of principal investigator:</i> H. L. Boiteau | | <i>Telephone No.:</i> + 33-40.48.56.90 | |
| <i>Descriptive project title:</i> Indoor air pollution due to household products and odd jobs | | | |
| <i>Keywords (see attached list):</i> residences, hobby products, sources, household products, emissions, measurements | | | |
| <i>Project start:</i> 1988 | | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> A.P.P.A. Comité Marseille Provence 36 Rue Edouard Delanglade <u>F-13006 Marseille</u> | | Laboratoire de Toxicologie et Pharmacie clinique 27 Boulevard Jean Moulin <u>F-13385 Marseille Cedex 5</u> | a b F 11 |
| <i>Name of principal investigator:</i> Prof. A. Viala | | <i>Telephone No.:</i> + 33 91 83 55 00 | |
| <i>Descriptive project title:</i> Study of a possible relationship between Environmental Tobacco Smoke (ETS) and biological markers among exposed non smokers | | | |
| <i>Keywords (see attached list):</i> air pollution, ETS, exposure, measurements, biological monitoring | | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institut de Protection et de Sureté Nucléaire Département de Protection Sanitaire BP 6 <u>F - 92265 Fontenay aus Roses Cédex</u> | | a b F 12 | |
| <i>Name of principal investigator:</i> G. Monchaux, J. P. Morlier, M. Morin | | <i>Telephone No.:</i> + 33-1-46.54.70.41 | |
| <i>Descriptive project title:</i> Experimental study of the potential cocarcinogenic effects of combined exposure to radon and formaldehyde in rats. | | | |
| <i>Keywords (see attached list):</i> cancerogenic, effects, radon, HCHO, exposure, animal-study, pollutants | | | |
| <i>Project start:</i> 1988 | | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> 2.5 M/Y | | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|--|---|-----------------|
| <i>Institute, address:</i> A.P.P.A. Comité Marseille Provence 36 Rue Edouard Delanglade <u>F-13006 Marseille</u> France | | Laboratoire de Toxicologie et Pharmacie clinique 27 Boulevard Jean Moulin <u>F-13385 Marseille Cedex 5</u> | a b F 13 |
| <i>Name of principal investigator:</i> Prof. A. Viala | | <i>Telephone No:</i> + 33 91 83 55 00 | |
| <i>Descriptive project title:</i> Nephrotoxicity of indoor and outdoor metallic air pollutants in children | | | |
| <i>Keywords (see attached list):</i> pollution, indoor/outdoor ratios, metals, lead, cadmium, vanadium, children, health effects, other systemic, nephrotoxicity | | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institut de Protection et de Sureté Nucléaire Département de Protection Sanitaire BP 6 <u>F - 92265 Fontenay aus Roses Cédex</u> | | a b F 14 | |
| <i>Name of principal investigator:</i> F. Anguenot and Dr J. Aigueperse | | <i>Telephone No:</i> + 33-1-46.54.70.47 | |
| <i>Descriptive project title:</i> Evaluation of exposure from wood-burning fireplace emissions | | | |
| <i>Keywords (see attached list):</i> exposure, concentrations, pollutants, sources, combustion, evaluation, NOX, VOC, POM, PAH | | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> 1 M/Y | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institut de Protection et de Sureté Nucléaire Département de Protection Sanitaire CEN:FAR - BP 6 <u>F - 92265 Fontenay aus Roses</u> | | a b F 15 | |
| <i>Name of principal investigator:</i> A. Rannou | | <i>Telephone No:</i> + 33-1- 46.54.77.18 | |
| <i>Descriptive project title:</i> Assessment of the indoor radon exposure in France | | | |
| <i>Keywords (see attached list):</i> pollution, radon, exposure | | | |
| <i>Project start:</i> 05/1983 | | <i>(Expected) project end:</i> 12/1990 | |
| <i>Estimated man power:</i> 10 M/Y | | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|--|
| <i>Institute, address:</i> Commissariat à l'Energie Atomique Centres d'Etudes Nucléaires de Fontenay-aux-Roses BP 6 F - 92265 Fontenay-aux-Roses Cédex, France | | a |
| | | b F 16 |
| <i>Name of principal investigator:</i> Marie-Line Perrin | | <i>Telephone No:</i> + 33-1- 46.54.72.04 |
| <i>Descriptive project title:</i> Indoor air pollution: characterization of emission factors of odorous compounds a/o aerosols by housing equipment and equipment for the well-being of occupants | | |
| <i>Keywords (see attached list):</i> standards, odours, PM, exposure, sources, emissions, measurements, methods, buildings, residences, offices, household-products, pollution, detection, methods | | |
| <i>Project start:</i> 06/1988 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> 25 M/Y | | <i>Estimated cost:</i> F 400,000 |
| <i>Institute, address:</i> Institut de Protection et de Sureté Nucleaire Département de Protection Sanitaire, B.P. 6 F-92265 Fontenay aux Roses Cedex France | | a |
| | | b F 17 |
| <i>Name of principal investigator:</i> Dr. J. Aigueperse and F. Anguenot | | <i>Telephone No:</i> + 33-1-46 54.70.47 |
| <i>Descriptive project title:</i> Evaluation of exposure from household and hobby products utilization | | |
| <i>Keywords (see attached list):</i> exposure, concentration, models, household products, hobby products, VOC, SVOC, database, pollutants | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Laboratoire d'Hygiène de la Ville de Paris (L.H.V.P) 11, rue George Eastman F - 75013 Paris | | a |
| | | b F 18 |
| <i>Name of principal investigator:</i> A. Person, B. Festy | | <i>Telephone No:</i> + 33-1-45.82.80.50 |
| <i>Descriptive project title:</i> Characterization of emission inside domestic environments. Assessment of personnel cumulative exposure to organic air pollutants in urban area | | |
| <i>Keywords (see attached list):</i> buildings, residences, pollutants, HCHO, NOx, VOC, SVOC, PM, metals, concentrations, exposure, variations | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> 2 MY | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|--|-----------------|
| <i>Institute, address</i> A.P.P.A. Comite Marseille Provence 36 Rue Edouard Delanglade F-13006 Marseille France | | Laboratoire de Toxicologie et Pharmacie clinique 27 Boulevard Jean Moulin F-13385 Marseille Cedex 5 France | a b F 19 |
| <i>Name of principal investigator:</i> Prof. A. Viala | | <i>Telephone No:</i> + 33 91 83 55 00 | |
| <i>Descriptive project title:</i> Indoor air pollution : studies in flats, schools and university buildings | | | |
| <i>Keywords (see attached list) :</i> schools, dwellings, pollution, gases, PM, metals, aldehydes, VOC, analysis | | | |
| <i>Project start:</i> 1988 | | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Préfecture de Police - Laboratoire Central 39 bis Rue de Dantzig F - 75015 Paris | | a b F 20 | |
| <i>Name of principal investigator:</i> M. Donati | | <i>Telephone No:</i> + 33-1-45 31 14 80 | |
| <i>Descriptive project title:</i> Control of combustion appliances in residences and measurement of pollutants (carbon monoxide and carbon dioxide) in residences | | | |
| <i>Keywords (see attached list) :</i> sources, combustion, buildings, residences, pollution, inorganic, concentrations, field study | | | |
| <i>Project start:</i> permanent | | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> 10 M/Y | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Préfecture de Police - Laboratoire Central 39 bis Rue de Dantzig F - 75015 Paris | | a b F 21 | |
| <i>Name of principal investigator:</i> M. Donati | | <i>Telephone No:</i> + 33-1-45.31.14.80 | |
| <i>Descriptive project title:</i> Determination of atmospheric pollution | | | |
| <i>Keywords (see attached list) :</i> pollution, HCHO, NOx, SVOC, POM, field study | | | |
| <i>Project start:</i> permanent | | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> 10 M/Y | | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|--|---|
| <i>Institute, address:</i> Préfecture de Police - Laboratoire Central 39bis rue de Dantzig F - 75015 Paris | | a b F 22 |
| <i>Name of principal investigator:</i> M. Donati | | <i>Telephone No:</i> + 33-1-45.31.14.80 |
| <i>Descriptive project title:</i> Test methods for atmospheric pollution | | |
| <i>Keywords (see attached list) :</i> methods, sampling, analysis, pollution, evaluation | | |
| <i>Project start:</i> permanent | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power:</i> 10 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Préfecture de Police - Laboratoire Central 39bis rue de Dantzig F - 75015 Paris | | a b F 23 |
| <i>Name of principal investigator:</i> M. Donati | | <i>Telephone No:</i> + 33-1-45.31.14.80 |
| <i>Descriptive project title:</i> Determination of temperature and humidity | | |
| <i>Keywords (see attached list) :</i> climate, field study | | |
| <i>Project start:</i> permanent | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power:</i> 10 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Préfecture de Police - Laboratoire Central 39bis rue de Dantzig F - 75015 Paris | | a b F 24 |
| <i>Name of principal investigator:</i> M. Donati | | <i>Telephone No:</i> + 33-1-45.31.14.80 |
| <i>Descriptive project title:</i> Determination of temperature, humidity, Carbon dioxide and monoxide, account of germs | | |
| <i>Keywords (see attached list) :</i> SBS, pollution, inorganic, biological, climate, field study | | |
| <i>Project start:</i> permanent | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power :</i> 10 M/Y | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, av. Jean Jaurès Champs/Marne F - 77421 Marne la Vallée Cédex 02 | | a |
| | | b F 25 |
| <i>Name of principal investigator:</i> D. Bienfait | | <i>Telephone No:</i> + 33-1-64.68.83.23 |
| <i>Descriptive project title:</i> Quality assessment of ventilation techniques in residential building | | |
| <i>Keywords (see attached list) :</i> buildings, chamber-study, evaluation, standards, ventilation, methods, residences | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> 0.3 MY | | <i>Estimated cost:</i> FF 300,000 |
| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, av. Jean Jaurès Champs/Marne F - 77421 Marne la Vallée Cédex 02 | | a |
| | | b F 26 |
| <i>Name of principal investigator:</i> D. Bienfait | | <i>Telephone No:</i> + 33-1-60.05.90.58 |
| <i>Descriptive project title:</i> Comparison of the efficiency of ventilation techniques with regard to the heat losses and air quality | | |
| <i>Keywords (see attached list) :</i> buildings, forced ventilation, natural ventilation, diurnal variations, seasonal variations, spatial variations, models, strategies | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> .5 MY | | <i>Estimated cost:</i> FF 500,000 |
| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, av. Jean Jaurès Champs/Marne F - 77421 Marne la Vallée Cédex 02 | | a |
| | | b F 27 |
| <i>Name of principal investigator:</i> J. R. Millet | | <i>Telephone No:</i> + 33-1-64.68.83.23 |
| <i>Descriptive project title:</i> Indoor climate and climate design of buildings in summer for temperate climates and in warm climates | | |
| <i>Keywords (see attached list) :</i> buildings, climate, air movement, ventilation | | |
| <i>Project start:</i> 1982 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> 0.5 MY | | <i>Estimated cost:</i> FF 500,000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|---|---|
| <i>Institute, address:</i> C.S.T.B. Et de Sophia B.P. 21 <u>F - 06562 Valbonne Cedex</u> | | a b F 28 |
| <i>Name of principal investigator:</i> R. Pelletret | | <i>Telephone No:</i> + 33-1-93.65.34.00 |
| <i>Descriptive project title:</i> Air movement measurements in multi-celled dwellings | | |
| <i>Keywords (see attached list):</i> ventilation, models, validation, air, movement | | |
| <i>Project start:</i> 1986 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Laboratoire d'Hygiene de la Ville de Paris (LHVP) 11, rue George Eastman <u>F - 75013 Paris</u> | | a b F 29 |
| <i>Name of principal investigator:</i> Dr. B. Festy | | <i>Telephone No:</i> + 33-1-45 82.80.50 |
| <i>Descriptive project title:</i> Atmospheric pollution and health in schools | | |
| <i>Keywords (see attached list):</i> schools, pollution, chemical, biological, noise, sources, health, behavioural effects | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Laboratoire d'Hygiène de la Ville de Paris (L.H.V.P) 11, rue George Eastman <u>F - 75013 Paris</u> | | a b F 30 |
| <i>Name of principal investigator:</i> B. Festy, F. Squinazi, A. Mouilleseaux | | <i>Telephone No:</i> + 33-1-42.74.13.14 |
| <i>Descriptive project title:</i> Air and water quality in buildings with A.C.S. | | |
| <i>Keywords (see attached list):</i> buildings, offices, hospitals, climate, control, SBS, ventilation, ACS | | |
| <i>Project start:</i> permanent | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN", (COST 613)
PROJECT INVENTORY

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|---|--|---|--|--------|
| <i>Institute, address:</i> Institut de Protection et de Surete Nucleaire Département de Protection Sanitaire Saint Gervais B.P. 6 <u>F-92265 Fontenay aux Roses Cedex</u> | | Laboratoire d'Hygiène de la Ville de Paris 11, rue George Eastman <u>F - 75013 Paris</u> | | a |
| | | | | b F 31 |
| <i>Name of principal investigator:</i> Dr. J. Aigueperse / F. Anguenot | | | <i>Telephone No:</i> + 33 1 46 54 70 47 | |
| <i>Descriptive project title:</i> Characterization of emissions from household products and domestic activities | | | | |
| <i>Keywords (see attached list):</i> emissions, combustion, VOC, SVOC, household products, database | | | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1991 | | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | | |
| <i>Institute, address:</i> Laboratoire d'Hygiene de la Ville de Paris (LHVP) 11, rue George Eastman <u>F - 75013 Paris</u> | | | | a |
| | | | | b F 32 |
| <i>Name of principal investigator:</i> B. Festy / A. Person / A.M. Laurent | | | <i>Telephone No:</i> + 33-1- 45 82 80 50 | |
| <i>Descriptive project title:</i> Assessment of Environmental Tobacco Smoke (ETS) contribution to indoor air pollution | | | | |
| <i>Keywords (see attached list):</i> pollution, ETS, exposure, chamber study, models, assessment | | | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1989 | | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | | |
| <i>Institute, address:</i> Electricite de France - Direction des Etudes et Recherches Groupe Qualité de l'Air 6 Quai Watier <u>F-78400-Chatou</u> | | | | a |
| | | | | b F 33 |
| <i>Name of principal investigator:</i> Jean-Claude Loewenstein | | | <i>Telephone No:</i> + 33-1-30 87 76 12 | |
| <i>Descriptive project title:</i> Simulation of indoor air phenomena in a stainless steel, 30m ³ test chamber | | | | |
| <i>Keywords (see attached list):</i> exposure, emissions, adsorption, concentrations, sources, combustion, building equipment, pollutants, organic, inorganic, climate, forced ventilation, natural ventilation | | | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1992 | | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Federation Nationale du Batiment/Centre Experimental de Recherche et d'Etudes du Batiment et des Travaux Publics Domaine de Saint-Paul - B.P. 37 F-78470 - Saint Remy les Chevreuse (in collaboration with EDF-DER and DETN) | | a b F 34 |
| <i>Name of principal investigator:</i> Denis Cluzel | | <i>Telephone No:</i> + 33 1 30 85 21 50 |
| <i>Descriptive project title:</i> Comfort and health in dwellings | | |
| <i>Keywords (see attached list):</i> building equipment, building materials, combustion, gas appliances, comfort, health, dwellings, ventilation, climate, representative survey, models | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1992 / 1993 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Laboratoire Central de la Préfecture de Police 39 bis Rue de Dantzig F-75015 Paris France | | a b F 35 |
| <i>Name of principal investigator:</i> Sloim | | <i>Telephone No:</i> + 33 1 45 31 14 80 |
| <i>Descriptive project title:</i> Development of a device to generate controlled formaldehyde concentrations | | |
| <i>Keywords (see attached list):</i> development, HCHO, sources, standards | | |
| <i>Project start:</i> March 1990 | | <i>(Expected) project end:</i> 1991 |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Societe Francaise d'Aerobiologie 18 Rue de Vincennes F-93100 Montreuil-Sous-Bois France | | a b F 36 |
| <i>Name of principal investigator:</i> Marie-Roger Ickovic | | <i>Telephone No:</i> + 33 1 42 87 22 40 |
| <i>Descriptive project title:</i> Low allergenic risk housing | | |
| <i>Keywords (see attached list):</i> building equipment, allergy, indoor, occupants, new buildings, allergens, mites, moulds, evaluation, measurements, ventilation | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1993 |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, Av. Jean Jaurès - Champs-sur-Marne B.P. 02 <u>F-77421 Marne la Vallee Cedex 02</u> France | | a b F 37 |
| <i>Name of principal investigator:</i> S. Kirchner | | <i>Telephone No:</i> + 33-1-64 68 82 66 |
| <i>Descriptive project title:</i> Measurement of pollutants emitted from construction products | | |
| <i>Keywords (see attached list):</i> VOC, chamber study, building materials, emissions, measurements, product characterization | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, Av. Jean Jaurès - Champs-sur-Marne <u>F-77421 Marne la Vallee Cedex 02</u> France | | a b F 38 |
| <i>Name of principal investigator:</i> C. Cochet | | <i>Telephone No:</i> + 33-1-64 68 82 66 |
| <i>Descriptive project title:</i> Hygiene, health, environment and construction : compilation study linked to the implementation of the construction product directive | | |
| <i>Keywords (see attached list):</i> review, building materials, emissions, control | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1990 |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, Av. Jean Jaurès - Champs-sur-Marne <u>F-77421 Marne la Vallee Cedex 02</u> France | | a b F 39 |
| <i>Name of principal investigator:</i> J.G. Villenave / D. Bienfait | | <i>Telephone No:</i> + 33.1.64 68 83 23 |
| <i>Descriptive project title:</i> Survey of houses where carbon monoxide poisoning occurred | | |
| <i>Keywords (see attached list):</i> carbon monoxide, field study, ventilation, intoxication | | |
| <i>Project start:</i> end 1990 | | <i>(Expected) project end:</i> end 1991 |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, Av. Jean Jaurès - Champs-sur-Marne <u>F-77421 Marne la Vallee Cedex 02</u> | | a b F 40 |
| <i>Name of principal investigator:</i> D. Buty | | <i>Telephone No:</i> + 33.1.64 68 83 23 |
| <i>Descriptive project title:</i> Modelling of passive stack ventilation systems with vented gas appliances. | | |
| <i>Keywords (see attached list):</i> gas appliances, forced ventilation, natural ventilation, combustion products, models, air movement | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1993 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, Av. Jean Jaurès - Champs-sur-Marne <u>F-77421 Marne la Vallee Cedex 02</u> | | a b F 41 |
| <i>Name of principal investigator:</i> J.R. Millet | | <i>Telephone No:</i> + 33.1.64 68 83 23 |
| <i>Descriptive project title:</i> Monitoring of combustion products from gas appliances in homes | | |
| <i>Keywords (see attached list):</i> gas appliances, natural ventilation, environmental monitoring, combustion products, NOx, carbon monoxide | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> C.S.T.B. - Centre Scientifique et Technique du Bâtiment 84, Av. Jean Jaurès - Champs-sur-Marne <u>F-77421 Marne la Vallee Cedex 02</u> | | a b F 42 |
| <i>Name of principal investigator:</i> D. Bienfait | | <i>Telephone No:</i> + 33.1.64 68 83 23 |
| <i>Descriptive project title:</i> Ventilation requirements and quality assessment of ventilation systems | | |
| <i>Keywords (see attached list):</i> ventilation system, ventilation efficiency, assessment, comparison, energy conservation, moisture, models, dwellings | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|--|--|-----------------|
| <i>Institute, address</i> R A T P - Régie Autonome des Transports Parisiens 127, Avenue Ledru Rollin F-75011 Paris France | | Laboratoire d'Hygiène de la Ville de Paris 11, rue George Eastman F - 75013 Paris | a b F 43 |
| <i>Name of principal investigator:</i> C. Parfait, B. Festy | | <i>Telephone No:</i> + 33-1-48 04 12 45 | |
| <i>Descriptive project title:</i> Air and surface quality of the underground railway system | | | |
| <i>Keywords (see attached list):</i> traffic-related, underground, climate, pollution, concentrations, air, surfaces, biological, bacteria, diurnal variations, spatial variations | | | |
| <i>Project start:</i> 1982 routine work | | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> R.A.T.P. Service Logistique - Qualité - Laboratoire 127, Avenue Ledru Rollin F-75011 Paris | | a b F 44 | |
| <i>Name of principal investigator:</i> C. Parfait | | <i>Telephone No:</i> + 33 1 48 04 12 05 | |
| <i>Descriptive project title:</i> Sulphur emissions in underground railway tunnel | | | |
| <i>Keywords (see attached list):</i> traffic related, underground, sources, odours, pollution, soil characteristics, control | | | |
| <i>Project start:</i> 1980 | | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address</i> Laboratoire d'Etude des Particules Inhalées 44, Rue Charles Moureu F-75013 Paris | | a b F 45 | |
| <i>Name of principal investigator:</i> M.A. Billon-Galland | | <i>Telephone No:</i> + 33-1-45 82 80 50 | |
| <i>Descriptive project title:</i> Asbestos and non-asbestos fibre measurements in buildings atmospheres | | | |
| <i>Keywords (see attached list):</i> pollution, MMMF, asbestos, concentrations, sources, building materials, control, measurement, buildings, offices, schools | | | |
| <i>Project start:</i> routine work - know how | | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Analytisch-biologisches Forschungslabor Prof. Dr. med. F. Adlkofer Goethestrasse 20 D-8000 München 2 Germany | | a b D 1 |
| <i>Name of principal investigator:</i> Prof. F. Adlkofer / Dr. G. Scherer | | <i>Telephone No:</i> + 49 89 53 53 95 |
| <i>Descriptive project title:</i> Biomonitoring after experimental ETS exposure | | |
| <i>Keywords (see attached list):</i> ETS, biological monitoring, HCHO, PM, gases, VOC, genotoxicity, measurement methods | | |
| <i>Project start:</i> 1986 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> DM 800.000 | |
| <i>Institute, address:</i> Analytisch-biologisches Forschungslabor Prof. Dr. med. F. Adlkofer Goethestrasse 20 D-8000 München 2 Germany | | a b D 2 |
| <i>Name of principal investigator:</i> Prof. F. Adlkofer / Dr. G. Scherer | | <i>Telephone No:</i> + 49 89 53 53 95 |
| <i>Descriptive project title:</i> Biomonitoring after real-life ETS exposure | | |
| <i>Keywords (see attached list):</i> ETS, field study, biological monitoring, pollutants, PM, gases, dwellings | | |
| <i>Project start:</i> 1991 | <i>(Expected) project end:</i> 1993 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Universitäts-Kinderklinik Projekt Atemwege und Luftverschmutzung Mathildenstraße 1 D - 7800 Freiburg | | a b D 3 |
| <i>Name of principal investigator:</i> Prof. Dr. R. Urbanek | | <i>Telephone No:</i> + 49-761-270-4446 |
| <i>Descriptive project title:</i> Air pollution, bronchial hyperreactivity and bronchial pulmonary disorders in children and adults | | |
| <i>Keywords (see attached list)</i> pollution, effects, hyperreactivity, respiratory, lung function, children | | |
| <i>Project start:</i> 1/1987 | <i>(Expected) project end:</i> 12/1989 | |
| <i>Estimated man power:</i> 3 M/Y | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN". (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address.</i> Analytisch-biologisches Forschungslabor, Prof. Dr. med. F. Adlkofer Goethestrasse 20 D-8000 München 2 Germany | | a |
| | | b D 4 |
| <i>Name of principal investigator:</i> Prof. F. Adlkofer / Dr. G. Scherer | | <i>Telephone No:</i> + 49 89 53 53 95 |
| <i>Descriptive project title.</i> Non-occupational benzene exposure | | |
| <i>Keywords (see attached list).</i> VOC, field study, measurements, biological monitoring, dwellings, concentrations, indoor/outdoor ratios | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> |
| <i>Institute, address.</i> Freie und Hansestadt Hamburg Behörde für Arbeit, Gesundheit und Soziales Amt für Gesundheits- und Veterinärwesen Abt. Gesundheit und Umwelt Tesdorpfstraße 8, D-2000 Hamburg 13 | | a |
| | | b D 5 |
| <i>Name of principal investigator:</i> H. Schümann / Dr. H. Saganski | | <i>Telephone No:</i> + 49-40-44.19.53.82 |
| <i>Descriptive project title.</i> Effects of a control strategy for dry cleaning shops | | |
| <i>Keywords (see attached list) :</i> tetrachloroethylene, dry cleaning shops, general population, residences, measurements, sampling, blood analysis, control, strategies | | |
| <i>Project start:</i> December 1989 | | <i>(Expected) project end:</i> June 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address.</i> Institut für Wasser-, Boden- und Lufthygiene des Bundesgesundheitsamtes Corrensplatz 1 1000 Berlin 33 | | a |
| | | b D 6 |
| <i>Name of principal investigator:</i> Dr. C. Krause | | <i>Telephone No:</i> + 49-30-83.08.27.15 |
| <i>Descriptive project title.</i> Measurement and analysis of environmental exposure in the FRG - Project " Environment and Health " | | |
| <i>Keywords (see attached list) :</i> epidemiological study, general population, children, exposure, biological monitoring, VOC, house dust, metals, drinking water, nutrition, reference values | | |
| <i>Project start:</i> 06/1991 | | <i>(Expected) project end:</i> 12/1994 |
| <i>Estimated man power:</i> 21 MY | | <i>Estimated cost:</i> DM 7.600.000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Gesellschaft für Hausbiologische Forschung Rheinallee 96 Postfach 43 40 D-6500 Mainz | | a |
| | | b D 7 |
| <i>Name of principal investigator:</i> Dr. E. Bischoff | | <i>Telephone No.:</i> + 49 61 31 64 28 00 |
| <i>Descriptive project title:</i> Detection and elimination of allergens and other metabolic substances and their producers in the indoor environment | | |
| <i>Keywords (see attached list):</i> exposure, pollution, biological, microorganisms, mites, acaricides, pets, dwellings, detection methods, control | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Institut für Wasser-, Boden- und Lufthygiene des Bundesgesundheitsamtes Corrensplatz 1 1000 Berlin 33 | | a |
| | | b D 8 |
| <i>Name of principal investigator:</i> Dr. N. Englert | | <i>Telephone No.:</i> + 49-30-83.08 28.05 |
| <i>Descriptive project title:</i> Comparative investigation of the acute effect of air pollutants. Part III: Air quality and respiratory illness in selected population groups | | |
| <i>Keywords (see attached list):</i> effects, hyperreactivity, respiratory, exposure, variations, NO _x , SO ₂ , PM, susceptible groups | | |
| <i>Project start:</i> 12/1986 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> 6 MY | | <i>Estimated cost:</i> DM 800,000 |
| <i>Institute, address:</i> Institut für Wasser-, Boden- und Lufthygiene des Bundesgesundheitsamtes Corrensplatz 1 1000 Berlin 33 | | a |
| | | b D 9 |
| <i>Name of principal investigator:</i> Dr. M. Fischer | | <i>Telephone No.:</i> + 49-30-8308-0 |
| <i>Descriptive project title:</i> Measurement and assessment of pollutants in indoor air (see D 22) | | |
| <i>Keywords (see attached list):</i> emissions, VOC, household products, building equipment, methods, development, chamber study, product characterization | | |
| <i>Project start:</i> 09/1986 | | <i>(Expected) project end:</i> 08/1989 |
| <i>Estimated man power:</i> 6.5 MY | | <i>Estimated cost:</i> DM 1,500,000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Westfälische Wilhelms-Universität Lehrstuhl für Analytische Chemie Wilhelm-Klemm-Strasse 8 D-4400 Münster | | a b D 10 |
| <i>Name of principal investigator:</i> Prof. Dr. K. Cammann / U. Meyer | | <i>Telephone No:</i> + 49 251 83 31 82 |
| <i>Descriptive project title:</i> Instrumental and methodical improvements of trace analysis of organic compounds in indoor air. Part I : development of a perchloroethylene monitor. | | |
| <i>Keywords (see attached list) :</i> sampling, analysis, measurement methods, detection methods, development, chlorinated HC, perchloroethylene | | |
| <i>Project start:</i> July 1989 | | <i>(Expected) project end:</i> August 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> DM 250.00 |
| <i>Institute, address:</i> Freie und Hansestadt Hamburg Gesundheitsbehörde Abteilung Gesundheit und Umwelt Tesdorpfstraße 8 D - 2000 Hamburg 13 | | a b D 11 |
| <i>Name of principal investigator:</i> Dr. Neus | | <i>Telephone No:</i> + 49-40-44.19.51 (386) |
| <i>Descriptive project title:</i> Epidemiological study of the internal burden of arsenic and heavy metals in inhabitants of the city of Hamburg | | |
| <i>Keywords (see attached list) :</i> pollution, metals, concentrations, exposure, variations, epidemiological study, susceptible groups, children | | |
| <i>Project start:</i> 10/1987 | | <i>(Expected) project end:</i> 12/1991 |
| <i>Estimated man power:</i> 9 MY | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Westfälische Wilhelms-Universität Lehrstuhl für Analytische Chemie Wilhelm-Klemm-Strasse 8 D-4400 Münster Germany | | a b D 12 |
| <i>Name of principal investigator:</i> Prof. Dr. K. Cammann / B. Winter / A. Grömping | | <i>Telephone No:</i> + 49 251 83 31 33 |
| <i>Descriptive project title:</i> Instrumental and methodical improvements of trace analysis of organic compounds in indoor air. Part II : development of a formaldehyde monitor and increasing of the sensitivity of HCHO-Analysis | | |
| <i>Keywords (see attached list) :</i> HCHO, aldehydes, sampling, analysis, measurement methods, detection methods, development, evaluation | | |
| <i>Project start:</i> July 1989 | | <i>(Expected) project end:</i> August 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> DM 250.000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| Institute, address: Fraunhofer Institut für Umweltchemie und Ökotoxikologie <u>5948 Schmallenberg-Grafschaft</u> | | a |
| | | b D 13 |
| Name of principal investigator: Dr. U. Glaser | | Telephone No: 0049-2972-302-0 |
| Descriptive project title: Inhalation study using experimental animals for the diagnosis of subclinical health disturbances caused by mixtures of volatile compounds in indoor air and by home dust | | |
| Keywords (see attached list) : effects, animal study, chamber study, pollutants, VOC, PM, house dust | | |
| Project start: /1988 | (Expected) project end: 1989 | |
| Estimated man power: 2.5 MY | Estimated cost: | |
| Institute, address: Fraunhofer-Institut für Umweltchemie und Ökotoxikologie <u>5948 Schmallenberg-Grafschaft</u> | | a |
| | | b D 14 |
| Name of principal investigator: Dr. D. Hochrainer | | Telephone No: 0049-2972-302-239 |
| Descriptive project title: Development of air filters for the protection of residences and offices from allergens | | |
| Keywords (see attached list) : pollutants, biological, allergens, control, methods, development | | |
| Project start: 01/1988 | (Expected) project end: 12/1990 | |
| Estimated man power: 6 MY | Estimated cost: | |
| Institute, address: Gesellschaft für Strahlen- und Umweltforschung mbH Institut für Ökologische Chemie Ingolstädter Landstr.1 <u>8042 Neuherberg</u> | | a |
| | | b D 15 |
| Name of principal investigator: Dr. I. Gebefügi | | Telephone No: 0049-89-3187-2690 |
| Descriptive project title: Detection and assessment of organic chemicals potentially present in indoor air over long periods of time | | |
| Keywords (see attached list) : sources, building materials, household products, hobby products, SVOC, emissions, sampling, analysis, assessment | | |
| Project start: 06/1985 | (Expected) project end: 1989 | |
| Estimated man power: 7 MY | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> GSF - Proj. Inhalation Ingolstädter Landstr. 1 <u>D - 8042 Neuherberg</u> | | a |
| | | b D 16 |
| <i>Name of principal investigator:</i> Prof. Dr. J. Heyder, Dr. W. G. Kreyung | | <i>Telephone No.:</i> + 49-89-3187 2309 |
| <i>Descriptive project title:</i> Effect of environmental aerosols on function and structure of the respiratory tract | | |
| <i>Keywords (see attached list):</i> pollution, PM, aerosols, chamber study, exposure, animal study, dogs, effects, respiratory, lung function | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> 30 MY | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technische Universität München Lehrstuhl für Ökologische Chemie Institut für Chemie Am Löwentor <u>D - 8050 Freising-Weihenstephan</u> | | a |
| | | b D 17 |
| <i>Name of principal investigator:</i> Prof. Dr. A. Kettrup | | <i>Telephone No.:</i> + 49-81-61.71.32.77 |
| <i>Descriptive project title:</i> Behaviour and effects of indoor chemicals - Identification, quantitation of exposure, hazard assessment with toxicological verification | | |
| <i>Keywords (see attached list):</i> pollution, VOC, SVOC, concentrations, exposure, effects, animal study, controlled exposure, allergy, chamber study, risk assessment | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> 4 M/Y | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Westfälische Wilhelms-Universität Lehrstuhl für Analytische Chemie Wilhelm-Klemm-Strasse 8 D-4400 Münster Germany | | a |
| | | b D 18 |
| <i>Name of principal investigator:</i> Prof. Dr. K. Cammann / M. Faust | | <i>Telephone No.:</i> + 49 251 83 31 84 |
| <i>Descriptive project title:</i> Instrumental and methodical improvements of trace analysis of organic compounds in indoor air. Part III : simplification of standardization and calibration by means of GC-MID. | | |
| <i>Keywords (see attached list):</i> analysis, measurement methods, detection methods, development, sampling, VOC, chlorinated HC, evaluation, validation | | |
| <i>Project start:</i> July 1989 | <i>(Expected) project end:</i> August 1992 | |
| <i>Estimated man power:</i> 14 M/Y | <i>Estimated cost:</i> DM 250.00 | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| Institute, address: Universität Tübingen Zoologisches Institut (Tierphysiologie) Auf der Morgenstelle 28 D-7400 Tübingen 1 Germany | | a |
| | | b D 19 |
| Name of principal investigator: Prof. Dr. R. Apfelbach | | Telephone No: + 49 70 71 29 26 24 |
| Descriptive project title: Evaluation of airborne chemicals on postnatal development | | |
| Keywords (see attached list) : HCHO, tetrachloroethylene, neurotoxicity, behavioural effects, controlled exposure, animal study, development | | |
| Project start: February 1989 | | (Expected) project end: March 1992 |
| Estimated man power: | | Estimated cost: DM 476.000 |
| Institute, address: Städtisches Gesundheitsamt Augsburg Labor für Umwelthygiene Hoher Weg 8 D - 8900 Augsburg | | a |
| | | b D 20 |
| Name of principal investigator: Prof. J. Gostomzyk, Th. Gratza | | Telephone No: + 49-821-324 2073 |
| Descriptive project title: Tetrachloroethylene causing indoor air pollution and resulting blood concentrations in the neighbourhood of dry cleaning shops | | |
| Keywords (see attached list) : tetrachloroethylene, pollution, VOC, chlorinated HC, sources, dry cleaning shops, exposure, biological monitoring | | |
| Project start: /1988 | | (Expected) project end: 1989 |
| Estimated man power: | | Estimated cost: |
| Institute, address: Fraunhofer-Institut für Umweltchemie und Ökotoxikologie Postfach 12 60 D - 5948 Schmallingenberg-Grafschaft | | a |
| | | b D 21 |
| Name of principal investigator: Dr. Ulrich Glaser | | Telephone No: + 49-2972-302-0 |
| Descriptive project title: Validation of experimental animal analyses for risk assessment of indoor air pollutant mixtures | | |
| Keywords (see attached list) : NO _x , VOC, PM, exposure, chamber study, animal study, genotoxicity, irritation, risk assessment, validation | | |
| Project start: 01/1989 | | (Expected) project end: 12/1991 |
| Estimated man power: 6 MY | | Estimated cost: |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|--|
| <i>Institute, address:</i> Fraunhofer-Institut für Systemtechnik und Innovationsforschung Breslauerstraße 48 D - 7500 Karlsruhe 1 | | a |
| | | b D 22 |
| <i>Name of principal investigator:</i> Dr. Walter Tötsch | | <i>Telephone No:</i> + 49-721-6809-116 |
| <i>Descriptive project title:</i> Measurement and assessment of pollutants in indoor air (in collaboration with Institut für Wasser-, Boden-, Lufthygiene, see D 9) | | |
| <i>Keywords (see attached list):</i> concentrations, pollutants, sources, furniture | | |
| <i>Project start:</i> 09/1986 | | <i>(Expected) project end:</i> 09/1989 |
| <i>Estimated man power:</i> 2.5 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Westfälische Wilhelms-Universität Lehrstuhl für Analytische Chemie Wilhelm-Klemm-Strasse 8 D-4400 Münster | | a |
| | | b D 23 |
| <i>Name of principal investigator:</i> Prof. Dr. K. Cammann / K. Hübner | | <i>Telephone No:</i> + 49 251 83 31 84 |
| <i>Descriptive project title:</i> Concept for the quality control of the chemical analysis of organic trace compounds. Part I: volatile halogenated HC in air and water of swimming halls | | |
| <i>Keywords (see attached list):</i> analysis, measurement methods, detection methods, sampling, chlorinated HC, halogenated HC, VOC, quality assurance, development | | |
| <i>Project start:</i> July 1989 | | <i>(Expected) project end:</i> August 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> DM 476.000 |
| <i>Institute, address:</i> G A F - Gesellschaft für angewandte und experimentelle Allergieforschung mbH Tomper Straße 27 D - 4050 Mönchengladbach | | a |
| | | b D 24 |
| <i>Name of principal investigator:</i> Josef H. Elixmann | | <i>Telephone No:</i> + 49-2161-550755 |
| <i>Descriptive project title:</i> Evidence of dust mites in home textiles of different type and fibre and in different environment | | |
| <i>Keywords (see attached list):</i> pollution, biological, sources, building equipment, home textiles, mites, allergens, assessment | | |
| <i>Project start:</i> 06/1988 | | <i>(Expected) project end:</i> 06/1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Biophysik und Physikalische Grundlagen der Medizin Universität des Saarlandes Universitätskliniken, Gebäude 76 D-6650 Homburg/Saar | | a b D 25 |
| <i>Name of principal investigator:</i> Privatdozent Dr. Gert Keller | | <i>Telephone No:</i> + 49 68 41 16 62 11 |
| <i>Descriptive project title:</i> Radon analysis, investigations about the influence of radon indoors on human health | | |
| <i>Keywords (see attached list):</i> radon, epidemiological study, inhalation, cancer, risk assessment | | |
| <i>Project start:</i> July 1989 | | <i>(Expected) project end:</i> September 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Medizinische Universität zu Lübeck Institut für Hygiene Ratzeburger Allee 160 D - 2400 Lübeck | | a b D 26 |
| <i>Name of principal investigator:</i> Prof. Dr. med. J. Beckert | | <i>Telephone No:</i> + 49-451-5002796 |
| <i>Descriptive project title:</i> Heat recovery and indoor air pollution. Determination of carry over rates of air pollutants relevant to the indoor environment and development of simple passive air sampling methods. | | |
| <i>Keywords (see attached list):</i> pollutants, methods, sampling, development, energy conservation | | |
| <i>Project start:</i> 09/1987 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> 5 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Institut für Hygiene der Freien Universität Berlin Leiter: Prof. Dr. med. Rüden Hindenburgdamm 27 D - 1000 Berlin 45 | | a b D 27 |
| <i>Name of principal investigator:</i> Dr.-Ing. H. -J. Moriske | | <i>Telephone No:</i> + 49-30-798 36 80/81 |
| <i>Descriptive project title:</i> Biological and chemical characterization of organic pollutants and heavy metals in indoor air | | |
| <i>Keywords (see attached list):</i> metals, PAH, concentrations, sources, measurements, toxicology, mutagenicity, POM, PM, effects, biological monitoring, suspended particulates, N-PAH, pollutants | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1991 |
| <i>Estimated man power:</i> 4 MY | | <i>Estimated cost:</i> DM 200,000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|---|-----------------------------------|
| Institute, address: Biophysik und Physikalische Grundlagen der Medizin Universität des Saarlandes Universitätskliniken, Gebäude 76 <u>D-6650 Homburg/Saar</u> | | a |
| | | b D 28 |
| Name of principal investigator: Privatdozent Dr. Gert Keller | | Telephone No: + 49 68 41 16 62 11 |
| Descriptive project title: Insulation of houses against radon, constructive proposals for new buildings and mitigation methods, intervention, control | | |
| Keywords (see attached list) : radon, buildings, soil, meteorological factors, ventilation, mitigation, methods | | |
| Project start: October 1989 | (Expected) project end: September 1991 | |
| Estimated man power: | Estimated cost: | |
| Institute, address: Institut für Hygiene, Ruhr-Universität Bochum Postfach 102148 <u>D - 4630 Bochum 1</u> | | a |
| | | b D 29 |
| Name of principal investigator: Prof. Dr. med. F. Selenka | | Telephone No: + 49-234-700 2365 |
| Descriptive project title: Transmission of PCP, HCH and chlorinated dioxins and furans from preserved wood to man. Study at nursery schools from Northrhein - Westfalia | | |
| Keywords (see attached list) : pollution, SVOC, biocides, chlorinated dioxins, PCP, building materials, schools, exposure, occupants, children | | |
| Project start: 1984 | (Expected) project end: 1989 | |
| Estimated man power: 5 MY | Estimated cost: DM 800,000 | |
| Institute, address: Biophysik und Physikalische Grundlagen der Medizin Universität des Saarlandes Universitätskliniken, Gebäude 76 <u>D-6650 Homburg / Saar</u> | | a |
| | | b D 30 |
| Name of principal investigator: Privatdozent Dr. Gert Keller | | Telephone No: + 49.68.4116 62 11 |
| Descriptive project title: Measurements of radon and daughter products indoors and outdoors and assessment of the resulting radiation exposure to the population | | |
| Keywords (see attached list) : radon, exposure, assessment, inhalation, general population, indoor/outdoor ratios | | |
| Project start: start May 1980 | (Expected) project end: end December 1991 | |
| Estimated man power: | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Institut für Hygiene, Ruhr-Universität Bochum Postfach 102148 <u>D - 4630 Bochum 1</u> | | a b D 31 |
| <i>Name of principal investigator:</i> Prof. Dr. med. F. Selenka | | <i>Telephone No:</i> + 49-234-700 2365 |
| <i>Descriptive project title:</i> Volatile chlorinated organic compounds in residences | | |
| <i>Keywords (see attached list):</i> pollution, VOC, chlorinated HC, residences, exposure, assessment | | |
| <i>Project start:</i> 1985 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power:</i> 3 MY | <i>Estimated cost:</i> DM 180,000 | |
| <i>Institute, address:</i> Institut für Umwelt- und Krankenhaushygiene der Universität Bahnhofstr. 13A <u>D-3550 Marburg</u> | | a b D 32 |
| <i>Name of principal investigator:</i> Prof. Dr. K. Knoll | | <i>Telephone No:</i> + 49-6421-28 43 37 |
| <i>Descriptive project title:</i> Investigations into the presence of halogenated hydrocarbons in the indoor air of swimming halls | | |
| <i>Keywords (see attached list):</i> concentrations, halogenated HC, swimming halls, analysis | | |
| <i>Project start:</i> March 1989 | <i>(Expected) project end:</i> December 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> DM 184.019 | |
| <i>Institute, address:</i> Institut fuer Biologie III der Universität Auf der Morgenstelle 28 <u>D-7400 Tübingen</u> Germany | | a b D 33 |
| <i>Name of principal investigator:</i> Prof. Dr. R. Apfelbach | | <i>Telephone No:</i> + 49-7071-29 26 24 |
| <i>Descriptive project title:</i> Health evaluation of exposure to odorants and pollutants during development | | |
| <i>Keywords (see attached list):</i> exposure, effects, health, odours, pollutants, evaluation | | |
| <i>Project start:</i> February 1989 | <i>(Expected) project end:</i> March 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> DM 476.084 | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Lehr- und Forschungsbereich Bauphysik und Werkstoffe im Bauwesen Eissendorfer Str. 42 D-2100 Hamburg 90 Germany | | a b D 34 |
| <i>Name of principal investigator:</i> Prof. Dr. L. Franke | | <i>Telephone No:</i> + 49-40-77-18 30 24 |
| <i>Descriptive project title:</i> Protection from emission of pollutants by sealing of surfaces | | |
| <i>Keywords (see attached list):</i> control techniques, surfaces, emissions, pollutants | | |
| <i>Project start:</i> September 1990 | | <i>(Expected) project end:</i> August 1993 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> DM 638.790 |
| <i>Institute, address:</i> Lehrstuhl für Analytische Chemie der Universität Wilhelm Klemm Str. 8 D-4400 Münster Germany | | a b D 35 |
| <i>Name of principal investigator:</i> Prof. Dr. K. Cammann | | <i>Telephone No:</i> + 49-251-83.31.41 |
| <i>Descriptive project title:</i> Practical quality assurance concepts for the routine trace analysis of organic harmful substances within the frame of a compound project | | |
| <i>Keywords (see attached list):</i> quality assurance, methods, analysis, pollutants, organic | | |
| <i>Project start:</i> March 1989 | | <i>(Expected) project end:</i> August 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> DM 572.094 |
| <i>Institute, address:</i> TÜV Nord Deutschland e.V. - Abt. Umweltschutz Grosse Bahnstrasse 31 D-2000 Hamburg 54 Germany | | a b D 36 |
| <i>Name of principal investigator:</i> Dr. H. Bauhof | | <i>Telephone No:</i> + 49-40-85 57 557 |
| <i>Descriptive project title:</i> Development and evaluation of standardized measurement methods Assessment of the contribution of materials emissions to indoor air pollution by organic compounds in passenger cars (part A). | | |
| <i>Keywords (see attached list):</i> development, evaluation, measurement methods, emissions, organic, traffic related | | |
| <i>Project start:</i> May 1990 | | <i>(Expected) project end:</i> April 1993 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> DM 424.976 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| Institute, address: Institut für Kunststoffprüfung und Kunststoffkunde der Universität Pfaffenwaldring 32 D-7000 Stuttgart 70 Germany | | a b D 37 |
| Name of principal investigator: Hans-Albrecht Federolf | | Telephone No: +49-711-68.52.661 |
| Descriptive project title: Development and evaluation of standardized measurement methods for organic emissions from materials used in passenger cars (part B) | | |
| Keywords (see attached list) : development, evaluation, measurement methods, emissions, organic, traffic related, product characterization | | |
| Project start: May 1990 | (Expected) project end: April 1993 | |
| Estimated man power: | Estimated cost: DM 422.838 | |
| Institute, address: Bundesamt für Strahlenschutz Dienststelle Berlin Waldowallee 117 D-1157 Berlin | | a b D 38 |
| Name of principal investigator: Prof. Dr. W. Röhnisch | | Telephone No: +49-37-25.020 |
| Descriptive project title: Investigations of indoor radon levels in East Germany by screening and long term follow-up measurements | | |
| Keywords (see attached list) : radon, concentrations, exposure, buildings, industrial buildings, residences, schools, underground, ventilation | | |
| Project start: March 1990 | (Expected) project end: December 1992 | |
| Estimated man power: | Estimated cost: | |
| Institute, address: Institut für Wasser-, Boden- und Lufthygiene des Bundesgesundheitsamtes Corrensplatz 1 D-1000 Berlin 33 Germany | | a b D 39 |
| Name of principal investigator: Dr. I. Gans | | Telephone No: +49-30-83.08.22.59 |
| Descriptive project title: Identification of houses with high radon levels in Southern East Germany, particularly in Thuringia, by screening measurements | | |
| Keywords (see attached list) : radon, concentrations, exposure, buildings, industrial buildings, residences, schools, underground, ventilation | | |
| Project start: June 1990 | (Expected) project end: December 1992 | |
| Estimated man power: | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Fraunhofer-Institut für Toxikologie und Aerosolforschung Nicolai-Fuchs-Str. 1 <u>D-3000 Hannover 61</u> Germany | | a b D 40 |
| <i>Name of principal investigator:</i> Prof. Dr. K. Levsen | | <i>Telephone No:</i> + 49-511-5350.218 |
| <i>Descriptive project title:</i> Organic indoor pollutants emitted from wallpaper and floor coverings | | |
| <i>Keywords (see attached list):</i> sources, emissions, organic, building materials, measurements, product characterization | | |
| <i>Project start:</i> June 1990 | <i>(Expected) project end:</i> September 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> DM 837.300 | |
| <i>Institute, address:</i> Fraunhofer Institut fuer Systemtechnik und Innovationsforschung (ISI) Breslauer Str. 48 D-7500 Karlsruhe 1 Germany | | a b D 41 |
| <i>Name of principal investigator:</i> Dr. E. Bohm | | <i>Telephone No:</i> + 49-721-68.09.12 5 + 6 |
| <i>Descriptive project title:</i> Measurement and evaluation of indoor air pollutants | | |
| <i>Keywords (see attached list):</i> measurements, evaluation, pollutants | | |
| <i>Project start:</i> August 1986 | <i>(Expected) project end:</i> January 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> DM 391.500 | |
| <i>Institute, address:</i> Fraunhofer-Institut für Bauphysik Postfach 1180 D-8150 Holzkirchen Germany | | a b D 42 |
| <i>Name of principal investigator:</i> Dr. rer. nat. E. Meyer | | <i>Telephone No:</i> + 49 8024 643 14 |
| <i>Descriptive project title:</i> Determination of the transfer of outdoor air contaminants into the interior of passenger cars | | |
| <i>Keywords (see attached list):</i> pollution, concentrations, NO _x , aerosols, filter systems, outdoor air, indoor/outdoor ratios, ventilation, traffic related | | |
| <i>Project start:</i> March 1990 | <i>(Expected) project end:</i> December 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> DM 581.000 | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Hauptgesundheitsamt Horner Str. 60 - 70 D-2800 Bremen 1 Germany | | a b D 43 |
| <i>Name of principal investigator:</i> Schaefer / Hohmann | | <i>Telephone No:</i> + 49-421-497-3420 / 5140 |
| <i>Descriptive project title:</i> Tetrachlorethene pollution of residents adjacent to dry cleaners | | |
| <i>Keywords (see attached list):</i> dwellings, perchloroethylene, concentrations, biological monitoring, blood analysis, complaints, sources, dry cleaning shops | | |
| <i>Project start:</i> October 1988 | | <i>(Expected) project end:</i> December 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Freie Universität Berlin, Kinderklinik und Poliklinik (WE 16) Universitätsklinikum Rudolf Virchow Standort Charlottenburg, Heubnerweg 6 D-1000 Berlin 19 | | a b D 44 |
| <i>Name of principal investigator:</i> Prof. Dr. Ulrich Wahn | | <i>Telephone No:</i> 030-30.35.43 41 |
| <i>Descriptive project title:</i> The influence of indoor allergen exposure on specific sensitization and bronchial hyperreactivity in atopic and non-atopic individuals | | |
| <i>Keywords (see attached list):</i> exposure, house dust, dwellings, airway, allergy, asthma, atopic, children, hyperreactivity, lung function, controlled exposure, epidemiological study, measurements | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1994 |
| <i>Estimated man power:</i> 4 M/Y | | <i>Estimated cost:</i> 1 Mill. DM |
| <i>Institute, address:</i> Hygieneinstitut Rostock Gertrudenstr. 9 D-2500 Rostock | | a b D 45 |
| <i>Name of principal investigator:</i> Dr. sc. med. Christel Hülße | | <i>Telephone No:</i> + 49 - 37.61.1 |
| <i>Descriptive project title:</i> Effects of air pollutants on childrens organism | | |
| <i>Keywords (see attached list):</i> allergy, immunological effects, irritation, lung function, nasal function, children, pollutants | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> 50.000, -DM |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Hygieneinstitut Rostock Gertrudenstr. 9 <u>D-2500 Rostock</u> Germany | | a |
| | | b D 46 |
| <i>Name of principal investigator:</i> Dr. rer. nat. Siegfried Kaulbach | | <i>Telephone No:</i> + 49 - 37.61.1 |
| <i>Descriptive project title:</i> A passive sampling device for simultaneous determination formaldehyde and nitrogen oxide in indoor air | | |
| <i>Keywords (see attached list) :</i> passive samplers, concentrations, HCHO, NOx, residences, schools, furniture, gas appliances | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> 40.000, -DM |
| <i>Institute, address:</i> Gesundheitsamt of the City of Frankfurt Braubachstraße 18-22 <u>W-6000 Frankfurt a.M. 1</u> Germany | | a |
| | | b D 47 |
| <i>Name of principal investigator:</i> Dr. U. Kalker / W. Hentschel | | <i>Telephone No:</i> + 49-69212.36980 |
| <i>Descriptive project title:</i> The exposure to Perchloroethylene to people living in the neighbourhood of dry cleaning shops | | |
| <i>Keywords (see attached list) :</i> exposure, tetrachloroethylene, external sources, dry cleaning shops, measurements, concentrations, biological monitoring, blood analysis | | |
| <i>Project start:</i> January 1991 | | <i>(Expected) project end:</i> May 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> | | a |
| | | b |
| <i>Name of principal investigator:</i> | | <i>Telephone No:</i> |
| <i>Descriptive project title:</i> | | |
| <i>Keywords (see attached list) :</i> | | |
| <i>Project start:</i> | | <i>(Expected) project end:</i> |
| <i>Estimated man power:</i> 3 Man Month | | <i>Estimated cost:</i> 15.000 DM |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Department of Community Medicine St. Thomas's Campus <u>U.K. - London SE1 7EH</u> | | a b GB 1 |
| <i>Name of principal investigator:</i> Dr. Jane Melia | | <i>Telephone No:</i> + 44-71-928-9292 Ext.3150 |
| <i>Descriptive project title:</i> Investigation of the relationship between respiratory illness in primary school children living in inner city areas and the use of gas cookers and paraffin heaters in the home | | |
| <i>Keywords (see attached list) :</i> emissions, sources, gas appliances, paraffin heaters, residences, effects, epidemiological study, respiratory, susceptible groups, children | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> 9 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Building Research Establishment Building Research Station Garston, Watford <u>U.K. - Hertfordshire, WD2 7JR</u> | | a b GB 2 |
| <i>Name of principal investigator:</i> Dr. D. Gardiner and Dr. D. Crump | | <i>Telephone No:</i> + 44-923-894040 |
| <i>Descriptive project title:</i> Analysis of volatile emissions from polymeric materials | | |
| <i>Keywords (see attached list) :</i> emissions, pollution, HCHO, VOC, dust, sources, building materials, uffl, measurements, product characterization, development | | |
| <i>Project start:</i> 04/1986 | | <i>(Expected) project end:</i> 03/1989 |
| <i>Estimated man power:</i> 1 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Welsh School of Architecture (R&D) UWCC P.O. Box 25 <u>U.K. - Cardiff CF1 BXE</u> | | a b GB 3 |
| <i>Name of principal investigator:</i> Dr. P. J. Jones and Prof. P. E. O'Sullivan | | <i>Tel. No:</i> + 44-222-87400 ext. 5979 |
| <i>Descriptive project title:</i> Ventilation rates in large buildings - tracer gas and air leakage measurements carried out in 10 factories. | | |
| <i>Keywords (see attached list) :</i> natural ventilation, industrial buildings, air movement, tracer gas, measurements | | |
| <i>Project start:</i> 12/1986 | | <i>(Expected) project end:</i> 05/1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Department of Occupational Health, London School of Hygiene and Tropical Medicine, Keppel St., <u>U.K. - London WC1E 9HT</u> | | a b GB 4 |
| <i>Name of principle investigator:</i> G. W. Crockford | | <i>Telephone No:</i> + 44-71-636-8636 |
| <i>Descriptive project title:</i> Electrostatic air filtering of mixed pollutant clouds (indoor air pollution control) | | |
| <i>Keywords (see attached list):</i> POM, PM, control, pollutants, electrostatic filters | | |
| <i>Project start:</i> 10/1987 | | <i>(Expected) project end:</i> 10/1990 |
| <i>Estimated man power:</i> 1.25 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Imperial College of Science, Technology and Medicine South Kensington <u>U.K.-London SW7 2BU</u> | | a b GB 5 |
| <i>Name of principle investigator:</i> Prof.R.Perry and Dr.J.N.Lester | | <i>Telephone No:</i> + 44-71 589 5111 |
| <i>Descriptive project title:</i> Air quality in the indoor working environment | | |
| <i>Keywords (see attached list):</i> pollution, HCHO, NOX, VOC, ETS, biological, concentrations, variations, ventilation, measurements, offices | | |
| <i>Project start:</i> 10/1988 | | <i>(Expected) project end:</i> 09/1990 |
| <i>Estimated man power:</i> 1.75 MY | | <i>Estimated cost:</i> 135'000 DM |
| <i>Institute, address:</i> Building Research Establishment Burknalls Lane Garston <u>U.K. - Watford WD2 7JR</u> | | a b GB 6 |
| <i>Name of principle investigator:</i> Dr. S. J. Wozniak, Mrs.C.Uglow | | <i>Telephone No:</i> + 44-923-894040 |
| <i>Descriptive project title:</i> Radon in buildings - remedial measures | | |
| <i>Keywords (see attached list):</i> pollution, radon, control, measurements, field study, models, assessment | | |
| <i>Project start:</i> 04/1987 | | <i>(Expected) project end:</i> 03/1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Building Research Establishment Burknalls Lane <u>Garston,</u> <u>U.K. -Watford WD2 7JR</u> | | a b GB 7 |
| <i>Name of principal investigator:</i> Mr. M. Wooliscroft | | <i>Telephone No:</i> + 44-923-894040 |
| <i>Descriptive project title:</i> Indoor air quality and ventilation requirements | | |
| <i>Keywords (see attached list) :</i> ventilation, standards, effects, risk groups | | |
| <i>Project start:</i> 04/1985 | | <i>(Expected) project end:</i> 03/1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> McCrone Research Associates Ltd. 2 McCrone Mews, Belsize Lane <u>U.K. - London NW3 5BG</u> | | a b GB 8 |
| <i>Name of principal investigator:</i> Miss J. Prentice | | <i>Telephone No:</i> + 44-71-435-2282/3 |
| <i>Descriptive project title:</i> Man made mineral fibres in the environment | | |
| <i>Keywords (see attached list) :</i> pollution, fibres, MMMF, measurements, buildings, exposure | | |
| <i>Project start:</i> 05/1988 | | <i>(Expected) project end:</i> 11/1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane <u>U.K. - Garston, Watford WD2 7JR</u> | | a b GB 9 |
| <i>Name of principal investigator:</i> Dr. G. Raw | | <i>Telephone No:</i> + 44-923-894040 |
| <i>Descriptive project title:</i> Sick Building Syndrome - pilot study | | |
| <i>Keywords (see attached list) .</i> SBS, buildings, offices, control, methods | | |
| <i>Project start:</i> 01/1988 | | <i>(Expected) project end:</i> 10/1989 |
| <i>Estimated man power:</i> 1 MY | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane Garston, <u>U.K. - Watford WD2 7JR</u> | | a b GB 10 |
| <i>Name of principal investigator:</i> Mr. M. Wooliscroft | | <i>Telephone No:</i> + 44-923-894040 |
| <i>Descriptive project title:</i> Indoor air movement | | |
| <i>Keywords (see attached list):</i> air movement, models, ventilation | | |
| <i>Project start:</i> 04/1989 | | <i>(Expected) project end:</i> 03/1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> The Occupational Medicine & Hygiene Laboratories 403 Edgware Rd. <u>U.K. - London NW2 6LN</u> | | a b GB 11 |
| <i>Name of principal investigator:</i> Dr. A. P. Rood | | <i>Telephone No:</i> + 44-81-450 8911 |
| <i>Descriptive project title:</i> Asbestos in the non-occupational environment | | |
| <i>Keywords (see attached list):</i> pollution, fibres, asbestos, schools, exposure, susceptible-groups, children | | |
| <i>Project start:</i> 1980 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> 12 MY | | <i>Estimated cost:</i> £500,000 |
| <i>Institute, address:</i> Institute of Occupational Medicine 8 Roxburgh Place <u>U.K. - Edinburgh EH8 9SU</u> | | a b GB 12 |
| <i>Name of principal investigator:</i> Dr. A. Robertson | | <i>Telephone No:</i> + 44-31-667 5131 |
| <i>Descriptive project title:</i> Aspergillus fumigatus in the asthmatic airway. Insecticides in homes, environmental levels and biological monitoring | | |
| <i>Keywords (see attached list):</i> insecticides, biological monitoring, pollutants, biocides, fungi, concentrations, biological | | |
| <i>Project start:</i> 09/1987 | | <i>(Expected) project end:</i> 09/1990 |
| <i>Estimated man power:</i> 9 MY | | <i>Estimated cost:</i> £180,000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| Institute, address: Institute of Occupational Medicine 8 Roxburgh Place <u>U.K. - Edinburgh EH8 9SU</u> | | a |
| | | b GB 13 |
| Name of principal investigator: Dr. Donaldson (K) | | Telephone No: + 44-31-667 5131 |
| Descriptive project title: Leucocyte-mediated injuries in ozone-exposed lungs | | |
| Keywords (see attached list) : ozone, pollutants, inorganic, exposure, effects, lung | | |
| Project start: 08/1987 | | (Expected) project end: 078/1990 |
| Estimated man power: 1.52 M/Y | | Estimated cost: £128,000 |
| Institute, address: Institute of Occupational Medicine 8 Roxburgh Place <u>U.K. - Edinburgh EH8 9SU</u> | | a |
| | | b GB 14 |
| Name of principal investigator: Dr. A. Robertson | | Telephone No: + 44-31-667 5131 |
| Descriptive project title: Aspergillus fumigatus in the asthmatic airway | | |
| Keywords (see attached list) : asthmatic, airway, fungi, effects | | |
| Project start: 09/1987 | | (Expected) project end: 09/1990 |
| Estimated man power: 1.5 M/Y | | Estimated cost: |
| Institute, address: Welsh School of Architecture (R&D) UWCC P.O. Box 25 <u>U.K. - Cardiff CF1 3XE</u> | | a |
| | | b GB 15 |
| Name of principal investigator: Dr. P.J. Jones | | Telephone No: + 44-222-874000 ext 5979 |
| Descriptive project title: Monitoring and assessment of ventilation in library building at Weald College, Harrow. | | |
| Keywords (see attached list) : natural ventilaiton, measurements, mechanical ventilation, schools | | |
| Project start: October 1990 | | (Expected) project end: 1991 |
| Estimated man power: 0,25 MY | | Estimated cost: £10,000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a |
| | | b GB 16 |
| <i>Name of principal investigator:</i> Mr. R. J. Aitken | | <i>Telephone No:</i> + 44-31-667.5131 |
| <i>Descriptive project title:</i> Development of versatile personal and static samplers | | |
| <i>Keywords (see attached list):</i> PM, standards, pollution, sampling, analysis, personal monitoring, environmental monitoring, development | | |
| <i>Project start:</i> ongoing | | <i>(Expected) project end:</i> |
| <i>Estimated man power:</i> 2 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a |
| | | b GB 17 |
| <i>Name of principal investigator:</i> Mr. M. MacLaren | | <i>Telephone No:</i> + 44-31-667.5131 |
| <i>Descriptive project title:</i> Relationships between exposure to low levels of radon and thoron daughters at 10 British coalmines and subsequent mortality, in particular from lung cancer | | |
| <i>Keywords (see attached list):</i> effects, epidemiological study, cancer, pollution, radon, risk groups, workers | | |
| <i>Project start:</i> November 1988 | | <i>(Expected) project end:</i> October 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> £724,000 |
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a |
| | | b GB 18 |
| <i>Name of principal investigator:</i> Mr. R. J. Aitken | | <i>Telephone No:</i> + 44-31-677-5131 |
| <i>Descriptive project title:</i> Enhancement of filtration systems for the control of airborne dust | | |
| <i>Keywords (see attached list):</i> PM, control, pollution, filter systems, development | | |
| <i>Project start:</i> ongoing | | <i>(Expected) project end:</i> |
| <i>Estimated man power:</i> 6 MM | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|---|
| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane Garston U.K. - Watford WD2 7JR | | a b GB 19 |
| <i>Name of principal investigator:</i> Dr. S. J. Wozniak | | <i>Telephone No:</i> + 44-923-664126 |
| <i>Descriptive project title:</i> Radon in buildings, protection of new buildings, remedial measures in older buildings | | |
| <i>Keywords (see attached list):</i> pollution, radon, field study, ventilation, measurements, models, assessment, variations, mitigation | | |
| <i>Project start:</i> April 1987 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Imperial College of Science, Technology and Medicine South Kensington London SW7 2BU U.K. | | a b GB 20 |
| <i>Name of principal investigator:</i> Prof. R. Perry and Dr. J. N. Lester | | <i>Telephone No:</i> + 44-71-589.51.11 |
| <i>Descriptive project title:</i> Air quality relationships with respect to building design and climate | | |
| <i>Keywords (see attached list):</i> pollution, NO _x , VOC, POM, PM, ETS, sources, variations, concentrations, climate, ventilation, developing countries | | |
| <i>Project start:</i> October 1988 | | <i>(Expected) project end:</i> September 1992 |
| <i>Estimated man power:</i> 1 M/Y | | <i>Estimated cost:</i> 150.000 |
| <i>Institute, address:</i> Imperial College of Science, Technology and Medicine South Kensington London SW7 2BU U.K. | | a b GB 21 |
| <i>Name of principal investigator:</i> Prof. R. Perry and J.N. Lester | | <i>Telephone No:</i> + 44-71-589.11.11 |
| <i>Descriptive project title:</i> The relationship between indoor and outdoor air quality | | |
| <i>Keywords (see attached list):</i> pollution, NO _x , VOC, sources, variations, concentrations, ventilation | | |
| <i>Project start:</i> September 1990 | | <i>(Expected) project end:</i> September 1992 |
| <i>Estimated man power:</i> 1.25 M/Y | | <i>Estimated cost:</i> 135.000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|--|---|
| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane Garston <u>U.K.-Watford WD2 7JR</u> | | a b GB 22 |
| <i>Name of principal investigator:</i> Dr. G.J. Raw | | <i>Telephone No:</i> + 44-923-66.45.07 |
| <i>Descriptive project title:</i> Longitudinal investigations of Sick Building Syndrome | | |
| <i>Keywords (see attached list):</i> SBS, VOC, POM, control, offices, ACS, ventilation | | |
| <i>Project start:</i> October 1988 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> 5 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane Garston <u>U.K.-Watford WD2 7JR</u> | | a b GB 23 |
| <i>Name of principal investigator:</i> C. H. Sanders | | <i>Telephone No:</i> + 44-3552-33.00.1 |
| <i>Descriptive project title:</i> Environmental conditions in housing and their effect on moulds and dust mites | | |
| <i>Keywords (see attached list):</i> dwellings, humidity, moulds, mites, health | | |
| <i>Project start:</i> January 1989 | | <i>(Expected) project end:</i> end 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane Garston <u>U.K.-Watford WD2 7JR</u> | | a b GB 24 |
| <i>Name of principal investigator:</i> Dr. D. Gardiner & Dr. D. Crump | | <i>Telephone No:</i> + 44-923-89.40.40 |
| <i>Descriptive project title:</i> Organic volatiles from building materials and their occurrence in indoor air | | |
| <i>Keywords (see attached list):</i> pollution, HCHO, VOC, exposure, chamber study, measurements, product characterization, development | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1995 |
| <i>Estimated man power:</i> 3 M/Y | | <i>Estimated cost:</i> £260 K p.a. |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|---|
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a b GB 25 |
| <i>Name of principal investigator:</i> Mr P.W. Brown | | <i>Telephone No:</i> + 44-31-667.51.31 |
| <i>Descriptive project title:</i> To define operational procedures and criteria for the assessment of laboratory counting performance required to establish a quality control scheme for the evaluation of low density samples from asbestos removals and develop performance criteria for replicate counting of low density samples | | |
| <i>Keywords (see attached list) :</i> measurements, comparison, evaluation, asbestos, quality assurance | | |
| <i>Project start:</i> April 1988 | | <i>(Expected) project end:</i> April 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> £74 K |
| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane Garston <u>U.K. - Watford WD2 7JR</u> | | a b GB 26 |
| <i>Name of principal investigator:</i> Dr. G.J. Raw | | <i>Telephone No:</i> + 44-923-66.45.07 |
| <i>Descriptive project title:</i> A longitudinal study of pregnancy and childhood (sub-study on nitrogen dioxide and ventilation in homes) | | |
| <i>Keywords (see attached list) :</i> children, residences, NOx, ventilation, seasonal variations, effects, respiratory | | |
| <i>Project start:</i> April 1990 | | <i>(Expected) project end:</i> 1994 |
| <i>Estimated man power:</i> 5 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Building Research Establishment Bucknalls Lane, Garston Watford <u>U.K. - WD2 7JR</u> | | a b GB 27 |
| <i>Name of principal investigator:</i> Dr. G.J. Raw | | <i>Telephone No:</i> + 44-923-66.45.07 |
| <i>Descriptive project title:</i> Database and reviews of IAQ (including health effects) | | |
| <i>Keywords (see attached list) :</i> database, standards, buildings, models, pollution, sources, effects | | |
| <i>Project start:</i> ongoing | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power:</i> 0 25 M/Y | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|---|--|
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a b GB 28 |
| <i>Name of principal investigator:</i> Dr. R. T. Cullen | | <i>Telephone No:</i> + 44-31-667.51.31 |
| <i>Descriptive project title:</i> To test the hypothesis that endotoxin and dust act synergistically to produce the inflammatory and immunological lung changes associated with dust-related lung diseases | | |
| <i>Keywords (see attached list):</i> effects, respiratory, pollution, POM, biological, toxicological, buildings, industrial buildings, risk groups, workers | | |
| <i>Project start:</i> August 1988 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power</i> | <i>Estimated cost:</i> £47,511 | |
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a b GB 29 |
| <i>Name of principal investigator:</i> J.F. Hurley | | <i>Telephone No:</i> + 44-31-667.51.31 |
| <i>Descriptive project title:</i> Health risk of exposure to asbestos at a television centre | | |
| <i>Keywords (see attached list):</i> exposure, fibres, buildings, offices, health, pollution, asbestos, risk groups, workers | | |
| <i>Project start:</i> June 1989 | <i>(Expected) project end:</i> April 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> up to £30 K | |
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a b GB 30 |
| <i>Name of principal investigator:</i> Mr. J. Cherrie | | <i>Telephone No:</i> + 44-31-667.51.31 |
| <i>Descriptive project title:</i> Effects of wearer behaviour of measurements made using pumped and diffusive sampling techniques | | |
| <i>Keywords (see attached list):</i> measurements, sampling, personal monitoring, passive samplers | | |
| <i>Project start:</i> April 1990 | <i>(Expected) project end:</i> March 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> £44,778 | |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA
CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a b GB 31 |
| <i>Name of principal investigator:</i> Dr. R. G. Love | | <i>Telephone No:</i> + 44-31-667.51.31 |
| <i>Descriptive project title:</i> Cross-sectional study of risks of respiratory disease in relation to exposures to airborne quartz in the heavy clay industry | | |
| <i>Keywords (see attached list) :</i> effects, epidemiological study, respiratory, pollution, PM, exposure, risk groups, workers | | |
| <i>Project start:</i> October 1989 | | <i>(Expected) project end:</i> September 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> £339,360 |
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8, Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a b GB 32 |
| <i>Name of principal investigator:</i> Dr. K. Donaldson | | <i>Telephone No:</i> + 44-31-667.51.31 |
| <i>Descriptive project title:</i> Further studies on the inflammatory and immunological effects of dust from the air of British wool mills | | |
| <i>Keywords (see attached list) :</i> effects, toxicological, respiratory, immunological effects, allergy, hyperreactivity, pollution, PM, fibres, industrial buildings, risk groups, workers | | |
| <i>Project start:</i> June 1989 | | <i>(Expected) project end:</i> May 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> £39,423 |
| <i>Institute, address:</i> Institute of Occupational Medicine Ltd 8 Roxburgh Place Edinburgh <u>U.K. - EH8 9SU</u> | | a b GB 33 |
| <i>Name of principal investigator:</i> Dr. R. T. Cullen | | <i>Telephone No:</i> + 44-31-667.51.31 |
| <i>Descriptive project title:</i> The effects of colophony fume on respiratory tract immunology | | |
| <i>Keywords (see attached list) :</i> pollution, biological, POM, effects, toxicological, respiratory, allergy, asthma, hyperreactivity, immunological effects, industrial buildings, workers | | |
| <i>Project start:</i> August 1988 | | <i>(Expected) project end:</i> July 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> £51,264 |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA
CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Occupational Lung Disease Unit East Birmingham Hospital Bordesley Green East U.K. - Birmingham B9 5ST | | a |
| | | b GB 34 |
| <i>Name of principal investigator:</i> Dr. S. Burge | | <i>Telephone No:</i> + 44-21-711.66.11 |
| <i>Descriptive project title:</i> The effect of the introduction of an office smoking policy on the symptoms of sick building syndrome | | |
| <i>Keywords (see attached list) :</i> offices, SBS, symptoms, biological monitoring, epidemiology, smoking | | |
| <i>Project start:</i> May 1991 | <i>(Expected) project end:</i> May 1993 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Occupational Lung Disease Unit East Birmingham Hospital Bordesley Green East U.K. - Birmingham B9 5ST | | a |
| | | b GB 35 |
| <i>Name of principal investigator:</i> Dr. S. Burge | | <i>Telephone No:</i> + 44-21-711.66.11 |
| <i>Descriptive project title:</i> The use of diary cards in the evaluation of SBS | | |
| <i>Keywords (see attached list) :</i> SBS, evaluation, methods, offices | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Occupational Lung Disease Unit East Birmingham Hospital Bordesley Green East U.K. - Birmingham B9 5ST | | a |
| | | b GB 36 |
| <i>Name of principal investigator:</i> Dr. S. Burge | | <i>Telephone No:</i> + 44-21-711.66.11 |
| <i>Descriptive project title:</i> Validation of nasal symptoms in office workers with rhinometry | | |
| <i>Keywords (see attached list) :</i> offices, nasal function, measurements, methods, validation, SBS | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> £44,778 | |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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|---|------------------------------|---------------------------------|
| Institute, address: Occupational Lung Disease Unit East Birmingham Hospital Bordesley Green East U.K. - Birmingham B9 5ST | | a |
| | | b GB 37 |
| Name of principal investigator: Dr. S. Burge | | Telephone No: + 44-21-711.66.11 |
| Descriptive project title: The validation of questionnaires for use in office workers with SBS | | |
| Keywords (see attached list) : offices, SBS, epidemiology, methods, validation | | |
| Project start: 1987 | (Expected) project end: 1991 | |
| Estimated man power: | Estimated cost: | |

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| Institute, address: | | a |
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| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | (Expected) project end: | |
| Estimated man power: | Estimated cost: | |

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|---------------------------------|-------------------------|---------------|
| Institute, address: | | a |
| | | b |
| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | (Expected) project end: | |
| Estimated man power: | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Nuclear Physics Laboratory University of Thessaloniki <u>GR-54006 Thessaloniki</u> Greece | | a |
| | | b GR 1 |
| <i>Name of principal investigator:</i> Prof. Constantin Papastefanou | | <i>Telephone No:</i> + 30-31-991455 |
| <i>Descriptive project title:</i> Radon in dwellings as a function of the radioactivity of building materials and other parameters | | |
| <i>Keywords (see attached list):</i> pollution, radon, building materials, risk assessment | | |
| <i>Project start:</i> 07/1988 | | <i>(Expected) project end:</i> 06/1991 |
| <i>Estimated man power:</i> 12 M/Y | | <i>Estimated cost:</i> DRA 20,000,000 |
| <i>Institute, address:</i> Institute of Nuclear Technology - Radiation Protection NCRPS "Democritos", Aghia Paraskevi Attikis <u>Athens</u> Greece | | a |
| | | b GR 2 |
| <i>Name of principal investigator:</i> Dr. Panusiotis Kritidis | | <i>Telephone No:</i> + 30-1-6517306 |
| <i>Descriptive project title:</i> Investigation of enhanced natural and artificial environmental radio-activity in Greece | | |
| <i>Keywords (see attached list):</i> pollution, radon, radioactivity, field study, assessment | | |
| <i>Project start:</i> 1985 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> 4 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Aristoteles University of Thessaloniki Division of Hydraulics and Environmental Engineering School of Technology <u>GR - 54006 Thessaloniki</u> | | a |
| | | b GR 3 |
| <i>Name of principal investigator:</i> Assis. Prof. E. Papachristou | | <i>Telephone No:</i> + 30-31-992728 |
| <i>Descriptive project title:</i> Determination of formaldehyde in indoor places | | |
| <i>Keywords (see attached list):</i> pollution, HCHO, field study, sources, exposure | | |
| <i>Project start:</i> 06/1988 | | <i>(Expected) project end:</i> 07/1989 |
| <i>Estimated man power:</i> 8 MY | | <i>Estimated cost:</i> DRA 2,400,000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|--|---------------------------------------|
| <i>Institute, address:</i> The National Hellenic Research Foundation 48 Vassilos Constantinou Ave, <u>GR - 11635 Athens</u> | | a b GR 4 |
| <i>Name of principal investigator:</i> Dr. Chem. Wanna Pandi-Agatokli | | <i>Telephone No:</i> |
| <i>Descriptive project title:</i> Determination of asbestos in indoor air and in biofluids of habitants. | | |
| <i>Keywords (see attached list) :</i> pollutants, fibres, asbestos, exposure, field study, biological monitoring | | |
| <i>Project start:</i> 01/1988 | <i>(Expected) project end:</i> 12/1990 | |
| <i>Estimated man power:</i> 2 MY | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> University of Thessaloniki Department of Chemistry Environmental Pollution Control Laboratory <u>GR - 54006 Thessaloniki</u> | | a b GR 5 |
| <i>Name of principal investigator:</i> Prof. Th. Kouimtzis | | <i>Telephone No:</i> + 30-31-991483 |
| <i>Descriptive project title:</i> Indoor air quality in the area of Thessaloniki | | |
| <i>Keywords (see attached list) :</i> pollution, metals, heavy metals, chlorinated HC, concentrations, field study | | |
| <i>Project start:</i> 09/1988 | <i>(Expected) project end:</i> 03/1990 | |
| <i>Estimated man power:</i> 4 MY | <i>Estimated cost:</i> DRA 3,000,000 | |
| <i>Institute, address:</i> Laboratory of Medical Physics School of Medicine University of Athens 75, Mikras Asias, Goudi 11527 Athens Greece | | a b GR 6 |
| <i>Name of principal investigator:</i> Prof. X. Proukakis | | <i>Telephone No:</i> + 30-1-77.93.273 |
| <i>Descriptive project title:</i> Exposure to radon in indoor air | | |
| <i>Keywords (see attached list) :</i> pollution, radon, measurements, field study | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> 3 M/Y | <i>Estimated cost:</i> --- | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|---------------------------------------|
| <i>Institute, address:</i> National Technical University NTU Campus Zografou 5 Zografou, Athens, Greece | | a |
| | | b GR 7 |
| <i>Name of principal investigator:</i> Assistant Prof. M. Loizidou | | <i>Telephone No:</i> + 30-1-77.24.270 |
| <i>Descriptive project title:</i> Measurements of NO ₂ in indoor air of dwellings in the Athens area | | |
| <i>Keywords (see attached list):</i> NO _x , measurements, dwellings | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> 2 M/Y | | <i>Estimated cost:</i> --- |
| <i>Institute, address:</i> Laboratory of Organic Chemistry Dept. of Chemistry University of Athens, University Campus of Zografou 15771 Kouponia Athens, Greece | | a |
| | | b GR 8 |
| <i>Name of principal investigator:</i> Dr. A. Valavanidis | | <i>Telephone No:</i> + 30-1-72.33.508 |
| <i>Descriptive project title:</i> Environmental Tobacco Smoke. Quantitative measurements of respirable suspended particulates of tobacco smoke in indoor air. A study of free radicals in tar and the gas-phase and mutagenicity of tobacco smoke. | | |
| <i>Keywords (see attached list):</i> ETS, suspended particulates, free radicals, mutagenicity | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1993 |
| <i>Estimated man power:</i> 2 M/Y | | <i>Estimated cost:</i> ~3.000.000 drs |
| <i>Institute, address:</i> | | a |
| | | b |
| <i>Name of principal investigator:</i> | | <i>Telephone No:</i> |
| <i>Descriptive project title:</i> | | |
| <i>Keywords (see attached list):</i> | | |
| <i>Project start:</i> | | <i>(Expected) project end:</i> |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

| | | |
|--|--|---------------------------------|
| Institute, address: Physics Department University College Dublin Dublin 4 Ireland | | a |
| | | b IRL 1 |
| Name of principal investigator: J. P. McLaughlin | | Telephone No: + 353-1-693244 |
| Descriptive project title: Assessment of the population dose indoors from natural radiation in Ireland with particular emphasis on radon daughter properties and behaviour | | |
| Keywords (see attached list) : pollution, radon, exposure, dose, general population, assessment | | |
| Project start: 07/1985 | | (Expected) project end: 12/1989 |
| Estimated man power: 9 MY | | Estimated cost: |
| Institute, address: | | a |
| | | b |
| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | | (Expected) project end: |
| Estimated man power: | | Estimated cost: |
| Institute, address: | | a |
| | | b |
| Name of principal investigator | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | | (Expected) project end: |
| Estimated man power: | | Estimated cost: |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|--|--|
| <i>Institute, address:</i> CISE-Tecnologie Innovative Spa, P.O. Box 12081, <u>I- 20134 Milano</u> | | a |
| | | b 1 1 |
| <i>Name of principal investigator</i> Roberto Ferraroli | | <i>Telephone No:</i> + 39-2-21672503 |
| <i>Descriptive project title</i> Pollutant emissions from natural gas combustion sources in dwellings | | |
| <i>Keywords (see attached list)</i> sources, combustion, emissions, field study, HCHO, NO _x , VOC, SVOC, dwellings, pollutants | | |
| <i>Project start:</i> 03/1987 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> 2 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Politecnico di Milano, Dipartimento di Programmazione Progettazione e Produzione Edilizia Via Bonardi 3, <u>I-20133 Milano</u> | | a |
| | | b 1 2 |
| <i>Name of principal investigator:</i> Prof. Adriana Baglioni | | <i>Telephone No:</i> + 39- 2- 23 99 51 17 / 23 99 51 |
| <i>Descriptive project title</i> Criteria for indoor air quality control in residential buildings | | |
| <i>Keywords (see attached list)</i> pollution, building materials, emissions, assessment, control, control techniques | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Institute of Occupational Medicine University of Perugia Via E. dal Pozzo <u>I-06100 Perugia</u> | | a |
| | | b 1 3 |
| <i>Name of principal investigator:</i> Prof. Giuseppe Abbritti | | <i>Telephone No:</i> + 39-75 27 046 |
| <i>Descriptive project title</i> Prevalence of Sick Building Syndrome in air conditioned and naturally ventilated buildings | | |
| <i>Keywords (see attached list):</i> new buildings, offices, comfort, SBS, epidemiology, ACS, natural ventilation, comparison | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|---|
| <i>Institute, address:</i> Institute of Occupational Medicine University of Perugia Via E. dal Pozzo I-06100 Perugia | | a b 14 |
| <i>Name of principal investigator:</i> Prof. Giuseppe Abbritti | | <i>Telephone No:</i> + 39-75 27 046 |
| <i>Descriptive project title:</i> Aetiology of building-related diseases in office-workers | | |
| <i>Keywords (see attached list):</i> offices, occupants, irritation, other systemic, susceptible groups, epidemiological study | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> open ended |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Istituto Superiore di Sanita Viale Regina Elena, 299 I - 00161 Roma | | a b 15 |
| ENEA-DISP Via Vitaliano Brancati, 48 I 00144 Roma 06-85282862 | | |
| <i>Name of principal investigator:</i> Prof. G. Campos Venuti and S. Piermattei | | <i>Telephone No:</i> + 39-6-4990 Ext 229 |
| <i>Descriptive project title:</i> Organisation and development of a national survey to evaluate the average effective dose equivalent due to radon indoors | | |
| <i>Keywords (see attached list):</i> pollution, radon, exposure, dose, assessment, development, representative survey | | |
| <i>Project start:</i> 06/1987 | | <i>(Expected) project end:</i> 12/1990 |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> |
| <i>Institute, address</i> Institute of Occupational Health University of Milano Via S. Barnaba 8 I - 20122 Milano | | a b 16 |
| <i>Name of principal investigator:</i> Dr. Cesare Nava | | <i>Telephone No:</i> + 39-2-55181729 |
| <i>Descriptive project title:</i> Epidemiological and clinical study of skin disorders induced by household products in housewives (multicentric study in northern and southern Italy) | | |
| <i>Keywords (see attached list):</i> effects, skin effects, epidemiological study, household products | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|--|-------------------------------------|---|
| <i>Institute, address:</i> Institute of Occupational Health University of Milano Via S. Barnaba 8 <u>I - 20122 Milano</u> | | a |
| | | b 17 |
| <i>Name of principal investigator:</i> Prof. Mario Patroni | | <i>Telephone No:</i> + 39-2-55181729 |
| <i>Descriptive project title:</i> Assessment of human exposure to asbestos in public buildings and subway stations | | |
| <i>Keywords (see attached list):</i> exposure, fibres, buildings | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institute of Occupational Health University of Milano Via S. Barnaba 8 <u>I - 20122 Milano</u> | | a |
| | | b 18 |
| <i>Name of principal investigator:</i> Prof. Marco Maroni | | <i>Telephone No:</i> + 39-2-55.18.17.29 |
| <i>Descriptive project title:</i> Validation through data from the field of a computerized model to predict indoor air pollution | | |
| <i>Keywords (see attached list):</i> pollutions, concentrations, models, evaluation, validation | | |
| <i>Project start:</i> 1991 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Cattedra di Tecnologia dell'Architettura Università degli Studi di Reggio Calabria Via Diana 4 <u>I - 89100 Reggio Calabria</u> | | a |
| | | b 19 |
| <i>Name of principal investigator:</i> Prof. Adriana Baglioni | | <i>Telephone No:</i> + 39-965-21158 |
| <i>Descriptive project title:</i> Assessment of pollution sources in buildings and identification of preventive strategies in the building design and in the choice of building materials | | |
| <i>Keywords (see attached list):</i> sources, building materials, assessment, strategies, control | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

| | | |
|--|-------------------------------------|-------------------------------------|
| <i>Institute, address</i> Dipartimento di programmazione, progettazione e produzione edilizia Politecnico di Milano - Facoltà di Architettura Via Bonardi 3 I - 20133 Milano | | a b I 10 |
| <i>Name of principal investigator:</i> Prof. Guido Nardi | | <i>Telephone No:</i> + 39-2-2364345 |
| <i>Descriptive project title:</i> Energy saving and indoor pollution: assessment of the problem in different residential typologies and identification of remedies with social and economical feasibility | | |
| <i>Keywords (see attached list):</i> energy conservation, pollution, cost/benefit, residences, comparison, assessment | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power</i> | <i>Estimated cost:</i> | |
| <i>Institute, address</i> Istituto Superiore di Sanita Viale Regina Elena I - 00161 Roma | | a b I 11 |
| <i>Name of principal investigator:</i> Prof. G. Campos Venuti | | <i>Telephone No:</i> + 39-6-4990 |
| <i>Descriptive project title:</i> Assessment of human exposure to radon in selected areas of central Italy characterized by extensive use of tufa as a building material | | |
| <i>Keywords (see attached list):</i> pollution, human exposure, radon, building materials | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Osservatorio Epidemiologico della Regione Lazio Via di S. Costanza 53 I - 00198 Roma | | a b I 12 |
| <i>Name of principal investigator:</i> Dr. F. Forastiere | | <i>Telephone No:</i> + 39-6-8322315 |
| <i>Descriptive project title:</i> Respiratory functions and air pollution in children: cross sectional study in three areas with different outdoor and indoor pollution levels | | |
| <i>Keywords (see attached list):</i> effects, respiratory, children, pollution, indoor/outdoor ratios, variations | | |
| <i>Project start:</i> 1986 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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|--|--|--|-----------------|
| <i>Institute, address:</i> Istituto Superiore di Sanita' National Institute of Health Viale Regina Elena, 299 00161 Roma Italy | | ENEA/DISP Via Vitaliano Brancati, 48 00144 Roma Italy | a b 13 |
| <i>Name of principal investigator:</i> Prof. G. Campos - Venuti and S. Piermattei | | <i>Telephone No:</i> + 39 - 6- 4990 ext. 229 or 247 | |
| <i>Descriptive project title:</i> Assessment of the indoor radon exposure of the Italian population using a representative sample at both national and regional level | | | |
| <i>Keywords (see attached list):</i> pollution, radon, dwellings, occupants, exposure, representative survey | | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Istituto Superiore de Sanita' (National Institute of Health) Viale Regina Elena, 299 - 00161 Roma Italy | | a b 14 | |
| <i>Name of principal investigator:</i> Prof. G. Campos-Venuti | | <i>Telephone No:</i> + 39 - 6 - 4990 ext. 229 or 247 | |
| <i>Descriptive project title:</i> Study of environmental parameters which influence radon concentration indoors in normal living situations | | | |
| <i>Keywords (see attached list):</i> pollution, radon, dwellings, occupants, exposure, variations, investigation | | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> ENEL/CRTN Via Rubattino, 54 CISE-P.O. Box 20134 I-20134 Milano | | a b 15 | |
| <i>Name of principal investigator:</i> G. Queirazza, D. Capra | | <i>Telephone No:</i> + 39-2-88.47.39.85 /21.67.25.50 | |
| <i>Descriptive project title:</i> Evaluation of indoor pollutants emissions from gas combustion for domestic use | | | |
| <i>Keywords (see attached list):</i> combustion products, NOx, SO ₂ , ozone, gas appliances, dwellings, emissions, evaluation | | | |
| <i>Project start:</i> January 1991 | | <i>(Expected) project end:</i> December 1992 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> ENEL/CRTN Via Rubattino, 54 CISE-P.O. Box 20134 20134 Milano Italy | | a |
| | | b 16 |
| <i>Name of principal investigator:</i> G. Queirazza, D. Capra | | <i>Telephone No:</i> + 39-2-88.47.39.85/ 21.67.25.50 |
| <i>Descriptive project title:</i> Evaluation of the contribution of building materials to indoor radon concentrations | | |
| <i>Keywords (see attached list):</i> radon, meteorological factors, ventilation, sources, building materials, comparison, evaluation | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> December 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institute of Occupational Health University of Milano Via S. Barnaba, 8 20122 Milano | | a |
| | | b 17 |
| <i>Name of principal investigator:</i> Prof. Marco Maroni | | <i>Telephone No:</i> + 39-2-55.18.17.29 |
| <i>Descriptive project title:</i> Characterization of the viable biological contaminants of the air of office and school buildings | | |
| <i>Keywords (see attached list):</i> pollution, biological, microorganisms, bacteria, fungi, offices, schools, indoor/outdoor ratios, field study | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institute of Occupational Health University of Milano Via S. Barnaba, 8 20122 Milano | | a |
| | | b 18 |
| <i>Name of principal investigator:</i> Prof. Marco Maroni | | <i>Telephone No:</i> + 39-2-55.18.17.29 |
| <i>Descriptive project title:</i> Comparison of indoor air sampling methods for viable biological contaminants | | |
| <i>Keywords (see attached list):</i> sampling, methods, comparison, microorganisms, bacteria, fungi | | |
| <i>Project start:</i> 1991 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|---|
| <i>Institute, address:</i> Institute of Occupational Health University of Milano Via S. Barnaba, 8 20122 Milano | | a |
| | | b 19 |
| <i>Name of principal investigator:</i> Prof. Marco Maroni | | <i>Telephone No:</i> + 39-2-55.18.17.29 |
| <i>Descriptive project title:</i> Survey on radon and suspended particulate concentrations in schools | | |
| <i>Keywords (see attached list) :</i> radon, suspended particulates, concentrations, natural ventilation, schools, field study | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1991 |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Institute of Occupational Health University of Milano Via S. Barnaba, 8 20122 Milano | | a |
| | | b 20 |
| <i>Name of principal investigator:</i> Prof. Marco Maroni | | <i>Telephone No:</i> + 39-2-55.18.17.29 |
| <i>Descriptive project title:</i> Characterization of VOC and aldehyde exposure in offices and school buildings | | |
| <i>Keywords (see attached list) :</i> VOC, aldehydes, formaldehyde, exposure, offices, schools, field study | | |
| <i>Project start:</i> 1991 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> | | a |
| | | b |
| <i>Name of principal investigator:</i> | | <i>Telephone No:</i> |
| <i>Descriptive project title:</i> | | |
| <i>Keywords (see attached list) :</i> | | |
| <i>Project start:</i> | | <i>(Expected) project end:</i> |
| <i>Estimated man power :</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> University of Utrecht Dept. of Medical Microbiology Heidelberglaan 100 3584 CX Utrecht The Netherlands | | a b NL 1 |
| <i>Name of principal investigator:</i> K.B. Teeuw / C.M.J.E. Vandenbroucke | | <i>Telephone No:</i> + 31 30 53 36 36 |
| <i>Descriptive project title:</i> Microbiological and endotoxin contamination of indoor air in artificially ventilated buildings and its role on building-related health complaints | | |
| <i>Keywords (see attached list):</i> bacteria, fungi, allergens, health effects, offices, forced ventilation, complaints, investigations, SBS, ACS, guidelines | | |
| <i>Project start:</i> August 1988 | | <i>(Expected) project end:</i> August 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics & Systems P.O. Box 29 NL-2600 AA DELFT | | a b NL 2 |
| <i>Name of principal investigator:</i> M. Rolloos, B. Boesmans | | <i>Telephone No:</i> + 31-15-608410 |
| <i>Descriptive project title:</i> Indoor environment quality in dwelling and working circumstances: safety in working circumstances | | |
| <i>Keywords (see attached list):</i> dwellings, health | | |
| <i>Project start:</i> 01/1987 | | <i>(Expected) project end:</i> 12/1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics & Systems P.O. Box 29 NL-2600 AA DELFT | | a b NL 3 |
| <i>Name of principal investigator:</i> M. Rolloos | | <i>Telephone No:</i> + 31-15-608410 |
| <i>Descriptive project title:</i> Development of measurement techniques for indoor air quality | | |
| <i>Keywords (see attached list):</i> development, evaluation, validation, techniques, measurements | | |
| <i>Project start:</i> 01/1987 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|--|--|-------------------------------------|
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 NL-2600 AA DELFT | | a |
| | | b NL 4 |
| <i>Name of principal investigator:</i> W. M. ter Kuile | | <i>Telephone No:</i> + 31-15-608608 |
| <i>Descriptive project title:</i> Detection of aero allergens | | |
| <i>Keywords (see attached list) :</i> measurements, evaluation, exposure, pollutants, biological, allergens | | |
| <i>Project start:</i> 07/1986 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 NL-2600 AA DELFT | | a |
| | | b NL 5 |
| <i>Name of principal investigator:</i> J. F. van der Wal, M. Dubbeld | | <i>Telephone No:</i> + 31-15-608443 |
| <i>Descriptive project title:</i> Indoor air quality | | |
| <i>Keywords (see attached list) :</i> exposure, control, sources, SBS | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 NL-2600 AA DELFT | | a |
| | | b NL 6 |
| <i>Name of principal investigator:</i> M. Dubbeld | | <i>Telephone No:</i> + 31-15-608448 |
| <i>Descriptive project title:</i> Behaviour of occupants and comfort evaluation | | |
| <i>Keywords (see attached list) :</i> climate, ventilation, effects, comfort, evaluation | | |
| <i>Project start:</i> 04/1985 | <i>(Expected) project end:</i> 12/1989 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|--|
| <i>Institute, address:</i> Landbouwwuniversiteit Wageningen Vakgroep Toxicologie Bomenweg 2 <u>NL-6703 HD Wageningen</u> | | a b NL 7 |
| <i>Name of principal investigator:</i> G.A.H. Heussen | | <i>Telephone No:</i> + 39-9-370 92 13 7 |
| <i>Descriptive project title</i> Effects of indoor air on tracheal and alveolar type II epithelial cells in relation to lung cancer | | |
| <i>Keywords (see attached list):</i> pollution, PM, POM, effects, inhalation, genotoxicity, toxicological, in vitro study, animal study, cancerogenic | | |
| <i>Project start:</i> June 1989 | | <i>(Expected) project end:</i> June 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 <u>NL-2600 AA DELFT</u> | | a b NL 8 |
| <i>Name of principal investigator:</i> W. F. de Gids | | <i>Telephone No:</i> + 31-15-608472 |
| <i>Descriptive project title:</i> Moisture and mould problems in houses | | |
| <i>Keywords (see attached list)</i> models, control, pollution, biological, moulds, climate, moisture | | |
| <i>Project start:</i> 03/1986 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 <u>NL-2600 AA DELFT</u> | | a b NL 9 |
| <i>Name of principal investigator:</i> W.F. de Gids | | <i>Telephone No:</i> + 31-15-608472 |
| <i>Descriptive project title:</i> Development of a moisture/ventilation model | | |
| <i>Keywords (see attached list):</i> ventilation, models, development, air movement, climate, moisture | | |
| <i>Project start:</i> 01/1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Landbouwiniversiteit Wageningen Vakgroep Toxicologie Bomenweg 2 NL - 6703 HD Wageningen | | a |
| | | b NL 10 |
| <i>Name of principal investigator:</i> G. A. H. Heussen | | <i>Telephone No:</i> + 31-8370-82137 |
| <i>Descriptive project title:</i> Mutagenicity of Indoor Air | | |
| <i>Keywords (see attached list):</i> pollution, PM, POM, biological, effects, toxicological, mutagenicity, genotoxicity, cancer, strategies | | |
| <i>Project start:</i> 01/1984 | | <i>(Expected) project end:</i> 06/1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 NL-2600 AA DELFT | | a |
| | | b NL 11 |
| <i>Name of principal investigator:</i> B. Knoll | | <i>Telephone No:</i> + 31-15-608608 |
| <i>Descriptive project title:</i> Prototype of a self-regulating ventilation system | | |
| <i>Keywords (see attached list):</i> Control, ventilation, development, evaluation | | |
| <i>Project start:</i> 02/1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 NL-2600 AA DELFT | | a |
| | | b NL 12 |
| <i>Name of principal investigator:</i> W.F. de Gids | | <i>Telephone No:</i> + 31-15-608472 |
| <i>Descriptive project title:</i> Behaviour of occupants on ventilation in houses | | |
| <i>Keywords (see attached list):</i> ventilation, data base, occupants, behavioural effects | | |
| <i>Project start:</i> 03/1986 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|--|
| <i>Institute, address:</i> University of Wageningen Department of Air Pollution P.O.Box 8129 <u>NL - 6700 EV Wageningen</u> | | a b NL 13 |
| <i>Name of principal investigator:</i> J. S. M. Boleij | | <i>Telephone No:</i> + 31-8370-82684 |
| <i>Descriptive project title:</i> Biomass burning and indoor air quality in developing countries | | |
| <i>Keywords (see attached list):</i> exposure, developing countries, effects, respiratory, sources, combustion | | |
| <i>Project start:</i> 1986 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> /3 M/Y | <i>Estimated cost:</i> Dfl 200,000/yr | |
| <i>Institute, address:</i> University of Wageningen Department of Environmental Health and Air Pollution P.O.Box 238 <u>NL - 6700 AE Wageningen</u> | | a b NL 14 |
| <i>Name of principal investigator:</i> B. Brunekreef | | <i>Telephone No:</i> + 31-8370-82684 / 82080 |
| <i>Descriptive project title:</i> Health complaints in the office environment | | |
| <i>Keywords (see attached list):</i> complaints, SBS, offices | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1993 | |
| <i>Estimated man power:</i> 2 M/Y | <i>Estimated cost:</i> Dfl. 200,000/yr (manpower not included) | |
| <i>Institute, address:</i> University of Wageningen Department of Environmental Health and Air Pollution P.O.Box 238 <u>NL - 6700 AE Wageningen</u> | | a b NL 15 |
| <i>Name of principal investigator:</i> B. Brunekreef / J. S. M. Boleij | | <i>Telephone No:</i> + 31-8370-82080 / 82684 |
| <i>Descriptive project title:</i> Health effects associated with home dampness | | |
| <i>Keywords (see attached list):</i> effects, respiratory, homes, biological, climate, moisture | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1993 | |
| <i>Estimated man power:</i> 1 M/Y | <i>Estimated cost:</i> Dfl. 100,000/yr (manpower not included) | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Gemeente Amsterdam, Gemeentelijke Geneeskundige en Gezondheids Dienst, Sector Volksgezondheid en Milieu Nieuwe Achtergracht 100 <u>NL - 1018 WT Amsterdam</u> | | a b NL 16 |
| <i>Name of principal investigator:</i> T. Fast | | <i>Telephone No:</i> +31-20-5555588 |
| <i>Descriptive project title:</i> The relation between health complaints and indoor air quality | | |
| <i>Keywords (see attached list):</i> complaints, investigations, exposure, sources, combustion, climate, ventilation, pollution, VOC, biological | | |
| <i>Project start:</i> 1988 | | <i>(Envisaged) project end:</i> 1990 |
| <i>Estimated man power:</i> 1 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> TNO Institute of Preventive Health Care (NIPG-TNO) P.O.Box 124 <u>NL - 2300 AC Leiden</u> | | a b NL 17 |
| <i>Name of principal investigator:</i> J. E. F. van Dongen | | <i>Telephone No:</i> +31-71-178811 |
| <i>Descriptive project title:</i> Inhabitant's behaviour and experiences on indoor air quality, heating and ventilation | | |
| <i>Keywords (see attached list):</i> residences, climate, ventilation, measurements, complaints, evaluation | | |
| <i>Project start:</i> 1983 | | <i>(Envisaged) project end:</i> 1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Interuniversity Working Group " Home & Health " State University Utrecht / Technological University Eindhoven Catharijnesingel 101 <u>NL - 3511 GV Utrecht</u> | | a b NL 18 |
| <i>Name of principal investigator:</i> J. Vorenkamp / J. E. M. H. van Bronswijk | | <i>Telephone No:</i> +31-30-372830 |
| <i>Descriptive project title:</i> Management of biotic damage to buildings and human health | | |
| <i>Keywords (see attached list):</i> strategies, standards, pollution, biological, exposure, climate, ventilation, ACS, control, models, measurements, residences, SBS, effects, allergy, infection, infestation, household products | | |
| <i>Project start:</i> 03/1988 | | <i>(Envisaged) project end:</i> 03/1992 |
| <i>Estimated man power:</i> 7 MY | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN", (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 <u>NL - 2600 AD Delft</u> | | a b NL 19 |
| <i>Name of principal investigator:</i> J. Oldengarm | | <i>Telephone No:</i> + 31-15-788020 |
| <i>Descriptive project title:</i> The crawl space as a source to indoor air pollution | | |
| <i>Keywords (see attached list) :</i> air infiltration, climate, moisture, natural ventilation, models, detection methods, pollution, biological, fungi | | |
| <i>Project start:</i> 1987 | <i>(Envisaged) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 <u>NL - 2600 AD Delft</u> | | a b NL 20 |
| <i>Name of principal investigator:</i> J. Oldengarm | | <i>Telephone No:</i> + 31-15-788020 |
| <i>Descriptive project title:</i> Airborne moisture transfer in residences | | |
| <i>Keywords (see attached list) :</i> air movement, climate, moisture, measurement methods, ventilation efficiency | | |
| <i>Project start:</i> 1987 | <i>(Envisaged) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 <u>NL - 2600 AD Delft</u> | | a b NL 21 |
| <i>Name of principal investigator:</i> H. C. Peitsman | | <i>Telephone No:</i> + 31-15-787115 |
| <i>Descriptive project title:</i> Accurate humidity measurements in buildings | | |
| <i>Keywords (see attached list) :</i> humidity, measurements, buildings, climate | | |
| <i>Project start:</i> 1985 | <i>(Envisaged) project end:</i> 1990 | |
| <i>Estimated man power:</i> 7 MY | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 NL - 2600 AD Delft | | a b NL 22 |
| <i>Name of principal investigator:</i> H. A. L. van Dijk | | <i>Telephone No:</i> + 31-15-787071 |
| <i>Descriptive project title:</i> Modelling ventilation exchange between zones | | |
| <i>Keywords (see attached list):</i> ventilation, models, multizonal | | |
| <i>Project start:</i> 1985 | <i>(Envisaged) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 NL - 2600 AD Delft | | a b NL 23 |
| <i>Name of principal investigator:</i> H. J. Nicolaas | | <i>Telephone No:</i> + 31-15-787108 |
| <i>Descriptive project title:</i> Thermal modelling of indoor climate | | |
| <i>Keywords (see attached list):</i> climate, models | | |
| <i>Project start:</i> 1986 | <i>(Envisaged) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 NL - 2600 AD Delft | | a b NL 24 |
| <i>Name of principal investigator:</i> A. D. Lemaire | | <i>Telephone No:</i> + 31-15-787107 |
| <i>Descriptive project title:</i> Modelling of air movement based on Navier Stokes equations | | |
| <i>Keywords (see attached list):</i> models, air movement | | |
| <i>Project start:</i> 1986 | <i>(Envisaged) project end:</i> 1991 | |
| <i>Estimated man power:</i> 7 MY | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 <u>NL - 2600 AD Delft</u> | | a b NL 25 |
| <i>Name of principal investigator:</i> H. J. Nicolaas | | <i>Telephone No:</i> + 31-15-787108 |
| <i>Descriptive project title:</i> Models for air conditioning systems | | |
| <i>Keywords (see attached list):</i> models, ACS | | |
| <i>Project start:</i> 1970 | <i>(Envisaged) project end:</i> 1990 and later | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Technisch Physische Dienst TNO-TH TNO Institute of Applied Physics P.O.Box 155 <u>NL - 2600 AD Delft</u> | | a b NL 26 |
| <i>Name of principal investigator:</i> A. D. Lemaire | | <i>Telephone No:</i> + 31-15-787107 |
| <i>Descriptive project title:</i> Models for pollution concentration in air movements | | |
| <i>Keywords (see attached list):</i> air movement, pollution, concentrations, models | | |
| <i>Project start:</i> 1986 | <i>(Envisaged) project end:</i> 1991 and later | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> routine work | |
| <i>Institute, address:</i> Radiological Service TNO P.O.Box 9034 <u>NL - 6800 ES Arnhem</u> | | a b NL 27 |
| <i>Name of principal investigator:</i> J. G. Ackers | | <i>Telephone No:</i> + 31-85-562469 |
| <i>Descriptive project title:</i> Calculation of the radiation doses from natural sources in building materials used in various types of dwellings | | |
| <i>Keywords (see attached list):</i> pollution, radon, gamma radiation, sources, building materials, dwellings, exposure, dose, assessment | | |
| <i>Project start:</i> 1987 | <i>(Envisaged) project end:</i> 1991 | |
| <i>Estimated man power:</i> 2 MY | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Strategic Studies and Quality Assurance P.O. Box 29 NL-2600 AA DELFT | | a b NL 28 |
| <i>Name of principal investigator:</i> R.W.Lanting | | <i>Telephone No:</i> + 31-15-842138 |
| <i>Descriptive project title:</i> Risk assessment of toxic agents in dwellings | | |
| <i>Keywords (see attached list):</i> pollution, chemical, biological, dwellings, risk assessment, models, strategies | | |
| <i>Project start:</i> 1988 | <i>(Envisaged) project end:</i> 1989 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Indoor Environment, Building Physics and Systems P.O. Box 29 NL-2600 AA DELFT | | a b NL 29 |
| <i>Name of principal investigator:</i> J.F. van der Wal / R.W.Lanting | | <i>Telephone No:</i> + 31-15-608443 |
| <i>Descriptive project title:</i> Sampling strategies for indoor air pollution | | |
| <i>Keywords (see attached list):</i> strategies, guidelines, pollution, sampling, analysis | | |
| <i>Project start:</i> 1988 | <i>(Envisaged) project end:</i> 1989 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> TNO Building and Construction Research Dept. of Strategic Studies and Quality Assurance P.O. Box 29 NL-2600 AA DELFT | | a b NL 30 |
| <i>Name of principal investigator:</i> M.Leupen / R.W.Lanting | | <i>Telephone No:</i> + 31-15-842138 |
| <i>Descriptive project title:</i> Database sources / emissions / concentrations / effects | | |
| <i>Keywords (see attached list):</i> database, sources, emissions, concentrations, effects | | |
| <i>Project start:</i> 1988 | <i>(Envisaged) project end:</i> 1992 | |
| <i>Estimated man power:</i> 7 MY | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Dyno Industrier A.S. Chemicals Group, Research Centre P.O. Box 160 <u>N-2001 Lillestrøm</u> | | a |
| | | b N1 |
| <i>Name of principal investigator:</i> Nils Arne Jentoft | | <i>Telephone No.:</i> + 47 2 31 76 42 |
| <i>Descriptive project title:</i> Sampling and analysis of indoor and environmental formaldehyde | | |
| <i>Keywords (see attached list):</i> HCHO, sampling, analysis, building materials, outdoor air, indoor/outdoor ratios, TLV, SBS, validation | | |
| <i>Project start:</i> August 1988 | | <i>(Expected) project end:</i> October 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> SINTEF Applied Thermodynamics <u>N-7034 Trondheim</u> | | a |
| | | b N2 |
| <i>Name of principal investigator:</i> Vojislav Novakovic, Ph.D | | <i>Telephone No.:</i> + 47 7 59 38 68 |
| <i>Descriptive project title:</i> "HVAC-DYNAMICS" - a software tool for the dynamic simulation of heating, ventilation and air-conditioning. May be used during the design of HVAC-systems to ensure the quality of delivered indoor air parameters | | |
| <i>Keywords (see attached list):</i> ACS, climate, variations, control, strategies, models, development, variations, control techniques | | |
| <i>Project start:</i> 01 01 87 | | <i>(Expected) project end:</i> 01.07.90 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> 1.000.000 NOK |
| <i>Institute, address:</i> SINTEF Applied Thermodynamics <u>N-7034 Trondheim</u> | | a |
| | | b N3 |
| <i>Name of principal investigator:</i> Hans Martin Mathisen | | <i>Telephone No.:</i> + 47 7 59 38 70 |
| <i>Descriptive project title:</i> Analysis and evaluation of displacement ventilation | | |
| <i>Keywords (see attached list):</i> energy conservation, pollution, ventilation, displacement, concentrations, spatial variations, evaluation | | |
| <i>Project start:</i> 1984 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> 2.000.000 NOK |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN". (COST 613)

PROJECT INVENTORY

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| Institute, address: Norwegian Institute of Technology Division of Heating and Ventilating | | a |
| | | b N4 |
| Name of principal investigator: Gro Bratsberg | | Telephone No: + 47 7 59 37 59 |
| Descriptive project title: Quality assurance of indoor climate in rehabilitated and reorganized buildings | | |
| Keywords (see attached list) : buildings, offices, schools, renovation, quality assurance, climate, ventilation, building equipment, building materials, field study | | |
| Project start: 01.01.91 | (Expected) project end: 31.12.93 | |
| Estimated man power: | Estimated cost: 700.000 NOK | |
| Institute, address: Norwegian Institute of Technology Division of Heating and Ventilation | | a |
| | | b N5 |
| Name of principal investigator: Liv Bente Grande | | Telephone No: + 47 7 59 38 73 |
| Descriptive project title: Air quality and symptoms in sick buildings. Laboratory- and field survey. "Guidelines for a Healthy Building" | | |
| Keywords (see attached list) : SBS, symptoms, sensory effects, ACS, air movement, climate, forced ventilation, measurements, field study, guidelines | | |
| Project start: 01.01.89 | (Expected) project end: 31.12.91 | |
| Estimated man power: | Estimated cost: | |
| Institute, address: University of Bergen Dept of Chemistry Indoor Environment Lab. <u>N-5007 Bergen</u> | | a |
| | | b N6 |
| Name of principal investigator: Walter C. Wedberg | | Telephone No: + 47 52 12 57 0 |
| Descriptive project title: Electric field enhanced human dust exposure | | |
| Keywords (see attached list) : exposure, suspended particulates, static electricity, offices, irritation, climate, measurements, passive samplers | | |
| Project start: 1987 | (Expected) project end: 1992 | |
| Estimated man power | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|---|---------------------------------------|
| <i>Institute, address:</i> University of Bergen Dept. of Chemistry Indoor Environment Lab. <u>N-5007 Bergen</u> | | a |
| | | b N7 |
| <i>Name of principal investigator:</i> Walter C. Wedberg | | <i>Telephone No:</i> + 475 21 25 70 |
| <i>Descriptive project title:</i> Airborne and surface dust concentrations in office buildings | | |
| <i>Keywords (see attached list):</i> concentrations, building materials, suspended particulates, fibres, MMMF, offices, sampling, analysis | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Rikshospitalet Voksentoppen Ullveien 14 <u>N-0394 Oslo 3</u> | | a |
| | | b N8 |
| <i>Name of principal investigator:</i> Kjell Aas | | <i>Telephone No:</i> + 47-2 -14 19 90 |
| <i>Descriptive project title:</i> Hypersensitivity biochemistry | | |
| <i>Keywords (see attached list):</i> allergens, food contamination, gases, house dust, effects, physiological, biochemical effects | | |
| <i>Project start:</i> Autumn 1990 | <i>(Expected) project end:</i> 1995 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> 2 mill. NKR | |
| <i>Institute, address:</i> Norwegian Building Research Institute Postboks 123, Blindern <u>N-0314 Oslo 3</u> | | a |
| | | b N9 |
| <i>Name of principal investigator:</i> Eimund Skåret | | <i>Telephone No:</i> + 47-2-46 98 80 |
| <i>Descriptive project title:</i> The amount of indoor air quality problems in Norway | | |
| <i>Keywords (see attached list):</i> buildings, general population, complaints, representative survey | | |
| <i>Project start:</i> 01.01. 1988 | <i>(Expected) project end:</i> 31.12.1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> NKR 600.000 | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Norwegian Building Research Institute Postboks 123, Blindern <u>N-0314 Oslo 3</u> | | a |
| | | b N 10 |
| <i>Name of principal investigator:</i> Peter Blom | | <i>Telephone No:</i> + 47-2 46 98 80 |
| <i>Descriptive project title:</i> Emissions from floor coverings | | |
| <i>Keywords (see attached list) :</i> emissions, building materials, VOC, chamber study, product characterization | | |
| <i>Project start:</i> 01.01.91 | | <i>(Expected) project end:</i> 31.12.91 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> NKR 300.000 |
| <i>Institute, address:</i> Allergy Research Group Lab. of Clinical Biochemistry Haukel and University Hospital <u>N-5021 Bergen</u> | | a |
| | | b N 11 |
| <i>Name of principal investigator:</i> Turid Dybendal / Said Elsayed | | <i>Telephone No:</i> + 47-5-97 31 46 / 97 31 39 |
| <i>Descriptive project title:</i> Detection of antigens and allergens in dust samples from carpeted and smooth floors | | |
| <i>Keywords (see attached list) :</i> allergens, house dust, pets, fungi, mites, moulds, schools, allergy, analysis, detection, in vitro study | | |
| <i>Project start:</i> 1986 | | <i>(Expected) project end:</i> 1991 - 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Allergy Research Group Laboratory of Clinical Biochemistry Haukeland University Hospital <u>N-5021 Bergen</u> | | a |
| | | b N 12 |
| <i>Name of principal investigator:</i> Turid Dybendal / Said Elsayed | | <i>Telephone No:</i> + 47-5-97 31 46 / 97 31 39 |
| <i>Descriptive project title:</i> Solid material, proteins and allergens collected in the different filter stages of vacuum cleaners after use in schools | | |
| <i>Keywords (see attached list) :</i> allergens, house dust, electrostatic filters, exposure, filter systems, schools, analysis, detection | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| Institute, address: Allergy Research Group Laboratory of Clinical Biochemistry Haukeland University Hospital <u>N-5021 Bergen</u> | | a |
| | | b N 13 |
| Name of principal investigator: Turid Dybendal / Said Elsayed | | Telephone No: + 47-5-97 31 46 / 97 31 39 |
| Descriptive project title: Trials on denaturation of allergenic proteins by household cleaning solutions and chemicals detergents | | |
| Keywords (see attached list) : allergens, control, household products, solvents, investigations | | |
| Project start: 1988 | (Expected) project end: 1989 | |
| Estimated man power: | Estimated cost: | |
| Institute, address: Norwegian Institute for Air Research P.O. Box 64 <u>N-2001 Lillestrom</u> | | a |
| | | b N 14 |
| Name of principal investigator: Ole-Anders Braathen | | Telephone No: + 47 6 81 41 70 |
| Descriptive project title: Short term cohort study of the relationship between health and air pollution in Greenland, Norway. Indoor/Outdoor Measurements, Greenland, 1988 | | |
| Keywords (see attached list) : pollution, NO _x , SO ₂ , suspended particulates, ions, formaldehyde, indoor/outdoor ratios, effects, homes, field study, measurements, epidemiological study | | |
| Project start: 01.01.1988 | (Expected) project end: 31.12.1989 | |
| Estimated man power: | Estimated cost: NOK 1.280.000 | |
| Institute, address: Senter for Industriforskning P.O. Box 124 Blindern <u>N-0314 Oslo 3</u> | | a |
| | | b N 15 |
| Name of principal investigator: Maria Stranger-Johannessen | | Telephone No: + 47-2-45 29 28 |
| Descriptive project title: Methods for sampling of airborne and other microorganisms in the indoor environment | | |
| Keywords (see attached list) : microorganisms, sampling, methods | | |
| Project start: 1988 | (Expected) project end: 1995 | |
| Estimated man power: | Estimated cost: NOK 4 mill. | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Senter for Industrieforskning P.O. Box 124 Blindern <u>N-0314 Oslo 3</u> | | a |
| | | b N 16 |
| <i>Name of principal investigator:</i> Maria Stranger-Johannessen | | <i>Telephone No:</i> + 47-2-45 29 28 |
| <i>Descriptive project title:</i> Methods for testing of construction materials for the indoor environment for susceptibility to microbiological quanta | | |
| <i>Keywords (see attached list):</i> microorganisms, building materials, reactions, assessment | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> NOK 1,6 mill. | |
| <i>Institute, address:</i> Senter for Industrieforskning P.O. Box 124 Blindern 0314 Oslo 3 Norway | | a |
| | | b N 17 |
| <i>Name of principal investigator:</i> Tor G. Tollefsen | | <i>Telephone No:</i> + 47-2-45 29 80 |
| <i>Descriptive project title:</i> Measurement of odour intensity (Ed50) and identification of odorous organic compounds | | |
| <i>Keywords (see attached list):</i> odours, VOC, measurements, identification | | |
| <i>Project start:</i> ongoing | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> 5 - 30.000 NOK pr. project | |
| <i>Institute, address:</i> National Institute of Occupational Health P.O. Box 8149 <u>N-0033 Oslo</u> | | a |
| | | b N 18 |
| <i>Name of principal investigator:</i> Kåre Lenvik | | <i>Telephone No:</i> + 47-2-46 68 50 |
| <i>Descriptive project title:</i> Patterns and variations in the extent of "Sick Building Syndrome" symptoms and related environmental factors | | |
| <i>Keywords (see attached list):</i> offices, SBS, symptoms, variations, assessment | | |
| <i>Project start:</i> ongoing - 1990 or earlier | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Universidade de Aveiro Departamento de Ambiente Campo de Santiago <u>P - 3800 Aveiro</u> | | a b P 1 |
| <i>Name of principal investigator:</i> A. J. B. Samagaio and C. Borrego | | <i>Telephone No:</i> + 351-34-25085 |
| <i>Descriptive project title:</i> Numerical modelling of recirculating flows in rooms | | |
| <i>Keywords (see attached list):</i> climate, temperature, air movement, air recirculation, forced ventilation, ACS, models | | |
| <i>Project start:</i> 05/1987 | | <i>(Expected) project end:</i> 08/1990 |
| <i>Estimated man power:</i> 0.4 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> LNETI- Departamento de Protecção e Segurança Radiológica Estrada Nacional 10 <u>P - 2685 Sâcavem</u> | | a b P 2 |
| <i>Name of principal investigator:</i> Dr. J. P. Galvão | | <i>Telephone No:</i> + 351-1-2550021 |
| <i>Descriptive project title:</i> Evaluation of the population exposure to radon in the vicinity of uranium mining facilities | | |
| <i>Keywords (see attached list):</i> pollution, radon, concentrations, exposure, residences, building materials, external sources | | |
| <i>Project start:</i> 07/1986 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> 3 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> LNETI- Departamento de Protecção e Segurança Radiológica Estrada Nacional 10 <u>P - 2685 Sacavem</u> | | a b P 3 |
| <i>Name of principal investigator:</i> Dr. J. P. Galvão | | <i>Telephone No:</i> + 351-1-2550021 |
| <i>Descriptive project title:</i> Assessment of population doses from radon inhalation in houses built in the vicinity of mining facilities or in which wastes have been used | | |
| <i>Keywords (see attached list):</i> pollution, radon, concentrations, exposure, residences, dose, assessment | | |
| <i>Project start:</i> 07/1986 | | <i>(Expected) project end:</i> 12/1989 |
| <i>Estimated man power:</i> 3 M/Y | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN".(COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Swedish Radiation Protection Institute Box 60204 <u>S-104 01 Stockholm</u> | | a |
| | | b s 1 |
| <i>Name of principal investigator:</i> G. A. Swedjemark / N. Hagberg / L. Hubbard | | <i>Telephone No:</i> + 46-8-729 71 00 |
| <i>Descriptive project title:</i> Temporal variations of radon indoors and determining the annual average | | |
| <i>Keywords (see attached list)</i> radon, dwellings, concentrations, variations, ventilation, exposure, assessment | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Swedish Radiation Protection Institute Box 60204 <u>S-104 01 Stockholm</u> | | a |
| | | b s 2 |
| <i>Name of principal investigator:</i> L. Hubbard | | <i>Telephone No:</i> + 46-8-729 71 00 |
| <i>Descriptive project title:</i> Changes in radon concentrations - repeated measurements 1953 - 1989 | | |
| <i>Keywords (see attached list)</i> radon, dwellings, concentrations, variations, comparison | | |
| <i>Project start:</i> 1989 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Swedish Radiation Protection Institute Box 60204 <u>S-104 01 Stockholm</u> | | a |
| National Swedish Institute for Building Research Box 785 <u>S-80129 Gävle</u> | | b s 3 |
| <i>Name of principal investigator:</i> C.A. Boman / G.A. Swedjemark | | <i>Telephone No:</i> + 46-8-729 71 00 |
| <i>Descriptive project title:</i> Changes in indoor climate and radon concentrations - repeated measurements 1976 - 1990. | | |
| <i>Keywords (see attached list):</i> radon, concentrations, dwellings, climate, ventilation, variations, comparison | | |
| <i>Project start:</i> 1990 | | <i>(Expected) project end:</i> 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> National Swedish Institute for Building Research Box 785, S-801 Gävle Sweden | | a b s 4 |
| <i>Name of principal investigator:</i> Dr. D. P. Wyon / Hans Stymne | | <i>Tel No:</i> 46 26 10 02 206, <i>fax: no:</i> 46 26 11 81 54 |
| <i>Descriptive project title:</i> Field trials of a new procedure to eliminate Sick Building Syndrome: trial measures with quantitative feedback on symptom intensity | | |
| <i>Keywords (see attached list):</i> SBS, symptoms, irritation, subjective evaluation, control techniques, intervention, assessment, field study, hospitals, occupants, ACS, climate, ventilation, suspended particulates, ions, static electricity, lighting | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> SEK 800.000 | |
| <i>Institute, address:</i> National Swedish Institute for Building Research Box 785 S-80129 Gävle Sweden | | a b s 5 |
| <i>Name of principal investigator:</i> Urban Norlen | | <i>Telephone No:</i> + 46.26.14 77 00 |
| <i>Descriptive project title:</i> Indoor climate of the Swedish housing stock | | |
| <i>Keywords (see attached list):</i> representative survey, residences, SBS, measurements, air infiltration, climate, radon, field study | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> 1993 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> 5.000.000 SKR | |
| <i>Institute, address:</i> National Swedish Institute for Building Research Box 785 S-80129 Gävle Sweden | | a b s 6 |
| <i>Name of principal investigator:</i> Dr. Mats Sandberg | | <i>Telephone No:</i> + 46.26.10 02 20 |
| <i>Descriptive project title:</i> Ventilation by displacement | | |
| <i>Keywords (see attached list):</i> ventilation, displacement, air movement, ventilation efficiency, measurements, models | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> 1993 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|---|---------------------------------------|
| <i>Institute, address:</i> National Swedish Institute for Building Research Box 785 S-80129 Gävle Sweden | | a |
| | | b s7 |
| <i>Name of principal investigator:</i> Dr. Mats Sandberg | | <i>Telephone No:</i> + 46.26.10 02 20 |
| <i>Descriptive project title:</i> Ventilation efficiency in dwellings | | |
| <i>Keywords (see attached list):</i> ventilation efficiency, forced ventilation, multizonal, measurements, dwellings | | |
| <i>Project start:</i> 1985 | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> National Swedish Institute for Building Research Box 785 S-801 29 Gävle Sweden | | a |
| | | b s8 |
| <i>Name of principal investigator:</i> Hans Stymne | | <i>Telephone No:</i> + 46.26 10 02 20 |
| <i>Descriptive project title:</i> Ventilation and air quality. Air movement and dispersion of contaminants. Interaction between building materials and contaminants. Development and control of various tracer gas methods | | |
| <i>Keywords (see attached list):</i> ventilation, air movement, emissions, pollutants, adsorption, concentrations, tracer gases, methods, development, validation | | |
| <i>Project start:</i> 1986 | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> National Swedish Institute for Building Research Box 785 S-801 29 Gävle Sweden | | a |
| | | b s9 |
| <i>Name of principal investigator:</i> Hans Stymne | | <i>Telephone No:</i> + 46.26 10 02 20 |
| <i>Descriptive project title:</i> Demand-controlled ventilation. Dispersion pattern of carbon dioxide and sensor location | | |
| <i>Keywords (see attached list):</i> ventilation, CO ₂ , air movement, sampling, control | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> March 1991 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|---|---------------------------------------|--------------------------------|
| Institute, address: National Swedish Institute for Building Research Box 785 S-801 29 Gävle Sweden | | a |
| | | b S 10 |
| Name of principal investigator: Hans Stymne | | Telephone No: + 46.26 10 02 20 |
| Descriptive project title: Development of a passive perfluorocarbon tracer (PFT) gas system for field measurement of ventilation | | |
| Keywords (see attached list) : ventilation, field measurements, multizonal, passive samplers, tracer gases | | |
| Project start: 1987 | (Expected) project end: October 1991 | |
| Estimated man power | Estimated cost: | |
| Institute, address: Swedish Radiation Protection Institute Box 60204 S-104 01 Stockholm Sweden | | a |
| | | b S 11 |
| Name of principal investigator: Dr. L. Hubbard, Dr. A. Enflo | | Telephone No: + 46-8-729 71 00 |
| Descriptive project title: Behaviour of radon and radon progeny. Models and applications. | | |
| Keywords (see attached list) : radon, radioactivity, dwellings, air infiltration, meteorological factors, temperature, ventilation, models, multizonal | | |
| Project start: February 1990 | (Expected) project end: February 1992 | |
| Estimated man power: | Estimated cost: 35 K ECU | |
| Institute, address: Swedish Radiation Protection Institute Box 60204 S-104 01 Stockholm Sweden | | a |
| | | b S 12 |
| Name of principal investigator: R. Falk | | Telephone No: + 46-8-729 71 00 |
| Descriptive project title: Deposition of radon progeny in the human respiratory tract | | |
| Keywords (see attached list) : radon, radioactivity, inhalation, nasal function, respiratory, dose, deposition | | |
| Project start: 1990 | (Expected) project end: 1992 | |
| Estimated man power: | Estimated cost: | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|---|---------------------------------------|
| <i>Institute, address:</i> Swedish Radiation Protection Institute Box 60204 S-104 01 Stockholm Sweden | | a |
| | | b S 13 |
| <i>Name of principal investigator:</i> R. Falk | | <i>Telephone No:</i> + 46-8-729 71 00 |
| <i>Descriptive project title:</i> Retrospective assessment of radon exposure from long-lived decay products | | |
| <i>Keywords (see attached list):</i> radon, exposure, measurements, assessment | | |
| <i>Project start:</i> 1990 | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Swedish Radiation Protection Institute Box 60204 S-104 01 Stockholm Sweden | | a |
| | | b S 14 |
| <i>Name of principal investigator:</i> L. Mjönes | | <i>Telephone No:</i> + 46-8-729 71 00 |
| <i>Descriptive project title:</i> Thoron and thoron progeny indoors in Sweden, including measurements of the unattached fraction of radon/thoron progeny | | |
| <i>Keywords (see attached list):</i> thoron, radon, radioactivity, dwellings, measurements | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Swedish Radiation Protection Institute Box 60204 S-104 01 Stockholm Sweden | | a |
| | | b S 15 |
| <i>Name of principal investigator:</i> L. Mjönes | | <i>Telephone No:</i> + 46-8-729 71 00 |
| <i>Descriptive project title:</i> New radon measurements in dwellings measured 1953 - 1954 | | |
| <i>Keywords (see attached list):</i> radon, dwellings, measurements, exposure, variations, comparison | | |
| <i>Project start:</i> 1989 | <i>(Expected) project end:</i> 1992 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Swedish National Testing Institute Dept for Chemical Analysis P.O. Box 857 <u>S-501 15 Borås</u> | | a b S 16 |
| <i>Name of principal investigator:</i> Hans Gustafsson and Peter Nielsen | | <i>Telephone No:</i> + 46 33 15 52 70 |
| <i>Descriptive project title:</i> Ventilated emission cell (VEC) for characterization of emission from building materials | | |
| <i>Keywords (see attached list):</i> emissions, building materials, field study, methods, assessment | | |
| <i>Project start:</i> August 1990 | | <i>(Expected) project end:</i> November 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Swedish National Testing Institute Dept for Chemical Analysis P.O. Box 857 <u>S-501 15 Borås</u> | | a b S 17 |
| <i>Name of principal investigator:</i> Annika Ekstrand-Tobin | | <i>Telephone No:</i> + 46 33 15 50 00 |
| <i>Descriptive project title:</i> Indoor air quality measurements in asthmatic youths homes | | |
| <i>Keywords (see attached list):</i> allergens, bacteria, fibres, formaldehyde, house dust, mites, moulds, VOC, field study, measurements, passive samplers, ventilation, allergy, asthma, humidity, emissions, dwellings, children | | |
| <i>Project start:</i> 1st October 1990 | | <i>(Expected) project end:</i> 1st October 1992 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> 1.5 m SEK |
| <i>Institute, address:</i> Swedish National Testing Institute Dept for Chemical Analysis P.O. Box 857 <u>S-501 15 Borås</u> | | a b S 18 |
| <i>Name of principal investigator:</i> Hans Gustafsson | | <i>Telephone No:</i> + 46 33 16 52 70 |
| <i>Descriptive project title:</i> Review of identified building materials as VOC emission sources in buildings | | |
| <i>Keywords (see attached list):</i> database, review, building materials, VOC, emissions | | |
| <i>Project start:</i> May 1989 | | <i>(Expected) project end:</i> October 1990 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

127

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|--|---|---|
| <i>Institute, address:</i> (a) Dept. of Environmental Hygiene, IMM, Karolinska Institute P.O. Box 60208 S-10401 Stockholm | | (b) Dept. of Psychology University of Stockholm S-10691 Stockholm Sweden | a b S 22 |
| <i>Name of principal investigator:</i> (a) I. Johansson, Prof. T. Lindvall (b) Prof. B. Berglund | | <i>Telephone No:</i> (a) + 46-8-728.64.00 (b) + 46-8-16.38.57 | |
| <i>Descriptive project title:</i> Dose-effect relationships of odour and mucosal irritation for selected air pollutants | | | |
| <i>Keywords (see attached list):</i> odours, solvents, VOC, effects, irritation, assessment | | | |
| <i>Project start:</i> 1985 | | <i>(Envisaged) project end:</i> 1994 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> (a) Dept. of Environmental Hygiene, IMM, Karolinska Institute P.O. Box 60208 S-10401 Stockholm | | (b) Dept. of Psychology University of Stockholm S-10691 Stockholm Sweden | a b S 23 |
| <i>Name of principal investigator:</i> (a) I. Johansson, Prof. T. Lindvall (b) Prof. B. Berglund | | <i>Telephone No:</i> (a) + 46-8-728.64.00 (b) + 46-8-16.38.57 | |
| <i>Descriptive project title:</i> Comparative analysis of indoor Volatile Organic Compounds, symptoms and environmental perceptions | | | |
| <i>Keywords (see attached list):</i> odours, solvents, VOC, symptoms, subjective evaluation, comparison | | | |
| <i>Project start:</i> 1990 | | <i>(Envisaged) project end:</i> 1991 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> (a) Dept. of Environ. Hygiene, IMM, Karolinska Institute P.O. Box 60208 S-10401 Stockholm | | (b) Dept. of Psychology University of Stockholm S-10691 Stockholm Sweden | (c) Dept. Environ. Medicine Central Hospital Örebro Sweden |
| <i>Name of principal investigator:</i> (a) Prof. T. Lindvall, (b) Prof. B. Berglund (c) Dr. Kjell Andersson / Dr. E. Liden | | <i>Telephone No:</i> (a) + 46-8-728.64.00 (b) + 46-8-16.38.57 | |
| <i>Descriptive project title:</i> Methods for measuring building-related symptoms and sensory effects by questionnaire studies | | | |
| <i>Keywords (see attached list):</i> odours, epidemiology, irritation, sensory effects, symptoms, measurements, methods | | | |
| <i>Project start:</i> 1990 | | <i>(Envisaged) project end:</i> 1996 | |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> | |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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| <i>Institute, address:</i> Dept. of Environmental Hygiene, IMM, Karolinska Institute, P.O. Box 60208 S-10401 Stockholm | | a |
| | | b s 25 |
| <i>Name of principal investigator:</i> Dr. L. Gustafsson, Prof. T. Lindvall | | <i>Telephone No:</i> + 46-8-728.64.00 |
| <i>Descriptive project title:</i> Environmental health monitoring system based on biological indicators | | |
| <i>Keywords (see attached list) :</i> risk assessment, outdoor air, bioassay, biological monitoring | | |
| <i>Project start:</i> 1987 | | <i>(Envisaged) project end:</i> 1991 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Dept. of Environmental Hygiene, IMM, Karolinska Institute, P.O. Box 60208 S-10401 Stockholm | | a |
| | | b s 26 |
| <i>Name of principal investigator:</i> Dr. L. Gustafsson, Prof. T. Lindvall | | <i>Telephone No:</i> + 46-8-728.64.00 |
| <i>Descriptive project title:</i> Risk assessment of environmentally induced health effects | | |
| <i>Keywords (see attached list) :</i> risk assessment, health, effects, environmental monitoring | | |
| <i>Project start:</i> 1991 | | <i>(Envisaged) project end:</i> 1994 |
| <i>Estimated man power</i> | | <i>Estimated cost:</i> |
| <i>Institute, address.</i> (a) Dept. of Environmental Hygiene, IMM, Karolinska Institute P.O. Box 60208 S-10401 Stockholm | | a |
| (b) Dept. of Psychology University of Stockholm S-10691 Stockholm Sweden | | b s 27 |
| <i>Name of principal investigator(s):</i> (a) Prof. T. Lindvall (b) Prof. B. Berglund | | <i>Telephone No:</i> (a) + 46-8-728.64.00 (b) + 46-8-16.38.57 |
| <i>Descriptive project title:</i> Measures of environmental effects on sensory systems | | |
| <i>Keywords (see attached list) :</i> odours, sensory effects, measurements, quality assurance | | |
| <i>Project start:</i> 1990 | | <i>(Envisaged) project end:</i> 1994 |
| <i>Estimated man power:</i> | | <i>Estimated cost:</i> |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|---|---|
| Institute, address: | | a |
| (a) Dept. of Environmental Hygiene, IMM, Karolinska Institute P.O. Box 60208 S-10401 Stockholm | (b) Dept. of Psychology University of Stockholm S-10691 Stockholm Sweden | b S 28 |
| Name of principal investigator(s): (a) Prof. T. Lindvall (b) Prof. B. Berglund | | Telephone No: (a) + 46-8-728.64.00 (b) + 46-8-16.38.57 |
| Descriptive project title: Mediations and mechanisms for adverse sensory reactions and environmental perceptions | | |
| Keywords (see attached list) : odours, sensory effects, mechanisms | | |
| Project start: 1989 | | (Envisaged) project end 1995 |
| Estimated man power: | | Estimated cost: |
| Institute, address: | | a |
| (a) Dept. of Environmental Hygiene, IMM, Karolinska Institute P.O. Box 60208 S-10401 Stockholm | (b) Dept. of Psychology University of Stockholm S-10691 Stockholm Sweden | b S 29 |
| Name of principal investigator(s): (a) Prof. T. Lindvall (b) Prof. B. Berglund | | Telephone No: (a) + 46-8-728.64.00 (b) + 46-8-16.38.57 |
| Descriptive project title: Sensory criteria for environmental requirements for health and comfort | | |
| Keywords (see attached list) : odours, sensory effects, health, comfort, guidelines | | |
| Project start: 1991 | | (Envisaged) project end: 1995 |
| Estimated man power: | | Estimated cost: |
| Institute, address: | | a |
| Malmö Kommun Community of Malmö Malmö Sweden | | b S 30 |
| Name of principal investigator: Sven Andersson | | Telephone No: |
| Descriptive project title: The Climate Indoors - Investigation of Schools and Day Care Centres | | |
| Keywords (see attached list) : ventilation, SBS, emissions, questionnaires, schools, day-care centres, field study | | |
| Project start: January 1988 | | (Envisaged) project end: December 1990 |
| Estimated man power: | | Estimated cost: 1.440.000 SEK |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)**PROJECT INVENTORY**

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|--|--|--------------------------------------|
| <i>Institute, address</i> Institut für Toxikologie ETH und UNI Zürich Schorenstrasse 16 <u>CH - 8603 Schwerzenbach</u> | | a b CH 1 |
| <i>Name of principal investigator:</i> H. Rothweiler and Ch. Schlatter | | <i>Telephone No.:</i> + 41-1-8251010 |
| <i>Descriptive project title</i> Concentrations of reactive and toxic VOC (bp < 250°C) in new and freshly renovated buildings | | |
| <i>Keywords (see attached list)</i> pollution, organic, VOC, reactive, concentrations, detection methods, development, renovation, new buildings | | |
| <i>Project start:</i> 01/1988 | <i>(Expected) project end:</i> 1991 | |
| <i>Estimated man power:</i> 2 M/Y | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institut für Toxikologie ETH und UNI Zürich Schorenstrasse 16 <u>CH - 8603 Schwerzenbach</u> | | a b CH 2 |
| <i>Name of principal investigator:</i> S. Kehl and Ch. Schlatter | | <i>Telephone No.:</i> + 41-1-8251010 |
| <i>Descriptive project title:</i> Determination of isocyanates-concentrations at workplaces, offices, schools and residences | | |
| <i>Keywords (see attached list)</i> pollution, organic, SVOC, isocyanates, concentrations, buildings, offices, schools, residences, sampling, analysis, measurements, field study | | |
| <i>Project start:</i> 06/1987 | <i>(Expected) project end:</i> 06/1990 | |
| <i>Estimated man power:</i> 1 2 M/Y | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Radiation Hygiene Division Paul Scherrer Institute vormals EIR <u>CH - 5303 Würenlingen</u> | | a b CH 3 |
| <i>Name of principal investigator:</i> Dr. R. Cramer, Dr. W. Burkart | | <i>Telephone No.:</i> + 41-56-992343 |
| <i>Descriptive project title</i> Building materials as source of exposure in Swiss buildings | | |
| <i>Keywords (see attached list)</i> radon, sources, building materials, emissions | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> 1 MY | <i>Estimated cost:</i> Sfr 100,000 /year | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|---|--|--|
| <i>Institute, address:</i> Institut für Toxikologie ETH und UNI Zürich Schorenstr. 16 <u>CH-8603 Schwerzenbach</u> | | a b CH 4 |
| <i>Name of principal investigator:</i> H. Rothweiler / Ch. Schlatter | | <i>Telephone No:</i> + 41-1-82.57.511 |
| <i>Descriptive project title:</i> Biocides in indoor air and it's impact on man | | |
| <i>Keywords (see attached list) :</i> biocides, SVOC, concentrations, measurements, biological-monitoring, toxicology, field study | | |
| <i>Project start:</i> February 1991 | | <i>(Expected) project end:</i> February 1994 |
| <i>Estimated man power:</i> 1.2 M/Y | | <i>Estimated cost:</i> |
| <i>Institute, address:</i> Radiation Hygiene Division Paul Scherrer Institute vormals EIR <u>CH - 5303 Würenlingen</u> | | a b CH 5 |
| <i>Name of principal investigator:</i> Dr. R. Cramer, Dr. W. Burkart | | <i>Telephone No:</i> + 41-56-992343 |
| <i>Descriptive project title:</i> Radiation exposures due to air tightening of dwellings | | |
| <i>Keywords (see attached list) :</i> radon, energy conservation, exposure, cost/benefit | | |
| <i>Project start:</i> 1987 | | <i>(Expected) project end:</i> 1989 |
| <i>Estimated man power:</i> 1.5 MY | | <i>Estimated cost:</i> Sfr 200,000 /year |
| <i>Institute, address:</i> Basler & Hofmann AG Forchstrasse 395 <u>CH - 8029 Zürich</u> | | a b CH 6 |
| <i>Name of principal investigator:</i> Dr. C. Filleux | | <i>Telephone No:</i> + 41-1-551122 |
| <i>Descriptive project title:</i> Demand controlled ventilating systems, Swiss contribution to IEA Annex XVIII | | |
| <i>Keywords (see attached list) :</i> ventilation, buildings, strategies, standards, control techniques | | |
| <i>Project start:</i> 11/1987 | | <i>(Expected) project end:</i> 12/1991 |
| <i>Estimated man power:</i> 6.5 MY | | <i>Estimated cost:</i> Sfr 605,000 |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN". (COST 613)**PROJECT INVENTORY**

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|---|--|--|
| <i>Institute, address:</i> Laboratoire d'Energie Solaire GRES / EPFL <u>CH - 1015 Lausanne</u> | | a b CH 7 |
| <i>Name of principal investigator</i> Dr. J. B. Gay | | <i>Telephone No:</i> + 41-21-474543 |
| <i>Descriptive project title:</i> Natural and forced convection | | |
| <i>Keywords (see attached list):</i> ventilation, natural ventilation, forced ventilation, air movement, comparison, residences | | |
| <i>Project start:</i> 09/1987 | <i>(Expected) project end:</i> 08/1989 | |
| <i>Estimated man power:</i> 2.5 MY | <i>Estimated cost:</i> Sfr 206,000 | |
| <i>Institute, address:</i> EMPA Abt. Luftfremdstoffe Ueberlandstr. 129 <u>Dübendorf</u> | | a b CH 8 |
| <i>Name of principal investigator</i> P. Hofer, J. Morkowski | | <i>Telephone No:</i> + 41-1-823 55 11 |
| <i>Descriptive project title:</i> Indoor pollution caused by building materials | | |
| <i>Keywords (see attached list):</i> measurement methods, development, evaluation, validation, pollutants, VOC, SVOC, POM, PM, fibres, building materials | | |
| <i>Project start:</i> 09/1988 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> 1 MY | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institut universitaire de médecine et d'hygiène du travail Rue du Bugnon 19 <u>CH - 1005 Lausanne</u> | | a b CH 9 |
| <i>Name of principal investigator:</i> T. Vu Duc | | <i>Telephone No:</i> + 41-21-31.41.111 |
| <i>Descriptive project title:</i> Chemical tracers of passive exposure to tobacco smoke | | |
| <i>Keywords (see attached list):</i> ETS, chamber study, measurements, strategies, exposure | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> 2 M/Y | <i>Estimated cost:</i> Sfr 250,000 | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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| <i>Institute, address:</i> Institut universitaire de médecine et d'hygiène du travail Rue du Bugnon 19 <u>CH - 1005 Lausanne</u> | | a b CH 10 |
| <i>Name of principal investigator:</i> C. A. Bernard | | <i>Telephone No:</i> + 41-21-31.41.111 |
| <i>Descriptive project title:</i> Causing factors, mechanisms of complaint and approach procedures in sick building syndrome and related housing outbreaks | | |
| <i>Keywords (see attached list):</i> complaints, SBS, sources, residences, schools, offices, assessment, methods | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> 2 M/Y | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Department of Hygiene and Applied Physiologie Federal Institute of Technology Zürich <u>CH - 8092 Zürich</u> | | a b CH 11 |
| <i>Name of principal investigator:</i> Hans-Urs Wanner | | <i>Telephone No:</i> + 41-1-256 3973 |
| <i>Descriptive project title:</i> Indoor air quality and indoor climate depending on the heating- and ventilation-system in dwellings and offices | | |
| <i>Keywords (see attached list):</i> air movement, complaints, dwellings, offices, SBS, ventilation system, comparison | | |
| <i>Project start:</i> 1988 | <i>(Expected) project end:</i> 1990 | |
| <i>Estimated man power:</i> | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Department of Hygiene and Applied Physiologie Federal Institute of Technology Zürich <u>CH - 8092 Zürich</u> | | a b CH 12 |
| <i>Name of principal investigator:</i> Hans-Urs Wanner | | <i>Telephone No:</i> + 41-1-256 3973 |
| <i>Descriptive project title:</i> Measurement of NO ₂ -concentrations in dwellings and respiratory symptoms in children | | |
| <i>Keywords (see attached list):</i> children, dwellings, epidemiological study, NO _x , effects, respiratory | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power:</i> 1 M/Y | <i>Estimated cost:</i> | |

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)
PROJECT INVENTORY

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|--|---|--------------------------------------|
| <i>Institute, address:</i> Department of Hygiene and Applied Physiologie Federal Institute of Technology Zürich <u>CH - 8092 Zürich</u> | | a b CH 13 |
| <i>Name of principal investigator:</i> Hans-Urs Wanner | | <i>Telephone No:</i> + 41-1-256 3973 |
| <i>Descriptive project title:</i> Measurement of microorganisms in the indoor air | | |
| <i>Keywords (see attached list):</i> pollutants, biological, aerosols, measurements, control, offices, residences, sources | | |
| <i>Project start:</i> 1980 | <i>(Expected) project end:</i> open ended | |
| <i>Estimated man power:</i> 0.2 M/Y | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Department of Hygiene and Applied Physiologie Federal Institute of Technology Zürich <u>CH - 8092 Zürich</u> | | a b CH 14 |
| <i>Name of principal investigator:</i> Brigitta Danuser | | <i>Telephone No:</i> + 41-1-256 3975 |
| <i>Descriptive project title</i> Passive smoking: Acute effects on lung function in sensitive persons | | |
| <i>Keywords (see attached list):</i> asthma, effects, lung function, physiological, ETS, risk groups | | |
| <i>Project start:</i> 1987 | <i>(Expected) project end:</i> 1989 | |
| <i>Estimated man power:</i> 1 M/Y | <i>Estimated cost:</i> | |
| <i>Institute, address:</i> Institut für Energietechnik ETH-Zentrum <u>CH - 8092 Zürich</u> | | a b CH 15 |
| <i>Name of principal investigator:</i> Prof. Dr. P. Suter | | <i>Telephone No:</i> + 41-1-2562738 |
| <i>Descriptive project title.</i> Numerical determination of air movement in single rooms | | |
| <i>Keywords (see attached list):</i> air movement, ventilation, natural ventilation, forced ventilation, models | | |
| <i>Project start:</i> 07/1986 | <i>(Expected) project end:</i> 01/1991 | |
| <i>Estimated man power:</i> 9 MY | <i>Estimated cost:</i> Sfr 1,438,000 | |

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN", (COST 613)

PROJECT INVENTORY

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|---|--|---------------------------------|
| Institute, address: Laboratoire d'Energie Solaire GRES / EPFL CH -1015 Lausanne | | a |
| | | b CH 16 |
| Name of principal investigator: Dr. C. A. Roulet | | Telephone No: + 41-21-474557 |
| Descriptive project title: Measurement of air exchange between rooms and environment | | |
| Keywords (see attached list) : ventilation, measurements, methods, validation, buildings, multizonal | | |
| Project start: 07/1987 | | (Expected) project end: 12/1989 |
| Estimated man power: 4 MY | | Estimated cost: Sfr 478,000 |
| Institute, address: | | a |
| | | b |
| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | | (Expected) project end: |
| Estimated man power: | | Estimated cost: |
| Institute, address: | | a |
| | | b |
| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
| Project start: | | (Expected) project end: |
| Estimated man power | | Estimated cost: |

8. COMPLETED PROJECTS

DENMARK

A documentation of health effects due to exposure to nitrogen dioxide and nitrogen oxide
Soeren Kjaergaard, Institute of environmental and occupational medicine, University of Aarhus,
8000 Aarhus C

Air quality in modern schools without mechanical ventilation systems
Ole Valbjørn, SBI-Danish Building Research Institute, P.O. Box 119, 2970 Horsholm.

An exposure study with nitrogen dioxide exposure of healthy and astmatic subjects in climate chambers
Soeren Kjaergaard / Ole Find Pedersen, Institute of Environmental and Occupational Medicine,
University of Aarhus, 8000 Aarhus C

Compensation of variations in natural ventilation
Morten Egdorf, Danish Technological Institute, Dept. for Building Technology, P.O. Box 141,
2630 Tastrup

Database for indoor pollutants
SBI - Danish Building Research Institute, P O. Box 119, 2970 Horsholm

n-Decane and n-Undecane, a literature survey
Lars Mølhave, Institute of Environmental and Occupational Medicine, Aarhus Universitet,
Bygn. 180, Universitetsparken, 8000 Aarhus C.

Detection of asbestos in very low concentrations
Thomas Schneider, Danish National Institute of Occupational Health, Baunegaardsvej 73,
2900 Hellerup

Development of an automatic ventilating flop
Morten Egdorf, Danish Technological Institute, Dept. for Building Technology, P.O. Box 141,
2630 Tastrup

Development of a test method for determination of mineral fibre emission from ceiling boards
Peter A. Nielsen, SBI-Danish Building Research Institute, P.O. Box 119, 2970 Horsholm.

Dimensioning of natural ventilation in small houses
Morten Egdorf, Danish Technological Institute, Dept. for Building Technology, P.O. Box 141,
2630 Tastrup

Easy method for measuring dust on surfaces and the effectiveness of cleaning
Ole Holm Petersen, Danish National Institute of Occupational Health, Baunegaardsvej 73,
2900 Hellerup

Emission from waterborne paints post application
P. Wolkoff / P.Nielsen, Danish National Institute of Occupational Health, Baunegaardsvej 73,
2900 Hellerup

Emission of gases and vapours from building materials
Peter A. Nielsen, SBI-Danish Building Research Institute, P.O. Box 119, 2970 Horsholm.

Emission of nitrogen oxides from a gas oven in a gas kitchen and from movable oven. Addition to the report "Nitrogen oxides emission, occurrence and impact on health in dwellings with unvented appliances"
Teknologisk Institut, Byggeteknik, Oregersensvej, 2630 Taastrup

Establishment of a biological test system for determination of emission of sensory irritants from building materials

G. Damgaard Nielsen, Danish National Institute of Occupational Health, Baunegaardsvej 73
2900 Hellerup

Evaluation of the influence of mini-risk dwellings on persons with bronchial asthma and atopic eczema

Jens Korsgaard / Henrik Harving, Lungeklinikken og lungemedicinsk afdeling, Aarhus Kommunehospital, 8000 Aarhus C.

Examination of the influence of forced ventilation of the crawling space on the concentration of radon in habitations

P. F. Collet, Danish Technological Institute, Dept. for Building Technology, P.O. Box 141,
2630 Taastrup

Health effects of nitrogen oxides in the indoor air

Soeren Kjaergaard, Institute of Environmental and Occupational Medicine, University of Aarhus
8000 Aarhus C

How to measure the ventilation efficiency

N. O. Breum, Danish National Institute of Occupational Health, Baunegaardsvej 73,
2900 Hellerup

Human reaction to n-decane vapours

Lars Mølhave, Institute of Environmental and Occupational Medicine, Aarhus Universitet, Bygn. 180, Universitetsparken, 8000 Aarhus C.

Human reaction to formaldehyde vapours in a controlled experiment

Lars Mølhave, Institute of Environmental and Occupational Medicine, Aarhus Universitet, Bygn. 180, Universitetsparken, 8000 Aarhus C.

Human reactions to volatile organic indoor air pollutants

Lars Mølhave, Institute of Environmental and Occupational Medicine, Aarhus Universitet, Bygn. 180, Universitetsparken, 8000 Aarhus C.

Human subjective evaluations of volatile organic indoor air pollutants

Lars Mølhave, Institute of Environmental and Occupational Medicine, Aarhus Universitet, Bygn. 180, Universitetsparken, 8000 Aarhus C.

Impact of off-gasing from materials on indoor air quality

SBI - Danish Building Research Institute, P.O. Box 119, 2970 Horsholm

Improvements of ventilation techniques for existing buildings with gas kitchen and evaluation of the effect

Teknologisk Institut, Byggeteknik, Oregersensvej, 2630 Taastrup

International intercalibration of measurements of emissions from building materials

Lars Mølhave, Institute of Environmental and Occupational Medicine, Aarhus Universitet, Bygn. 180, Universitetsparken, 8000 Aarhus C.

Investigation of factors influencing indoor radon concentrations

B. Majborn, Health Physics Department, Risoe National Laboratory, 4000 Roskilde

Measurement of user controlled air change in 3 mechanically ventilated low energy houses in Hjortekar

Morten Egedorf / P. F. Collet, Danish Technological Institute, Dept. for Building Technology, P.O. Box 141, 2630 Taastrup

Microorganism in the indoor climate in relation to the standard of cleaning

Hanne Moeller Andersen, The Jutland Technological Institute, Chemical Technology Department, Technologiiparken, 8000 Aarhus C.

Natural radiation in Danish dwellings

Kaare Ulbak, National Board of Health, National Institute of Radiation Hygiene, Frederikssundsvej 378, 2700 Broenshoej

Nitrogen oxides emission, occurrence and consequence health in dwellings using unvented gas appliances - literature review -

Teknologisk Institut, Byggeteknik, Oregersensvej, 2630 Taastrup

Outdoor air fans - positioning and function

SBI - Danish Building Research Institute, P.O. Box 119, 2970 Horsholm

Radon in buildings

Peter A. Nielsen, SBI-Danish Building Research Institute, P.O. Box 119, 2970 Horsholm.

Radon in dwellings - SMI-Booklet

Teknologisk Institut, Byggeteknik, Oregersensvej, 2630 Taastrup

Simplification of mechanical ventilation in institutions for children

Morten Egedorf, Danish Technological Institute, Dept. for Building Technology, P.O. Box 141, 2630 Taastrup

Study of the perfluorocarbon tracer gas measurement technique and preliminary investigations of air change rates in occupied dwellings

Niels Bergsøe, SBI-Danish Building Research Institute, P.O. Box 119, 2970 Horsholm.

Test of an automatic ventilating flop

Morten Egedorf, Danish Technological Institute, Dept. for Building Technology, P.O. Box 141, 2630 Taastrup

The Danish Health and Morbidity Survey 1986/87

Niels Kr. Rasmussen, The Danish Institute for Clinical Epidemiology, 25, Svanemoellevej, 2100 Copenhagen Ø

The reactions of asthmatic patients from exposure to volatile organic indoor air pollution

Henrik Harving / Lungeklinikken, Institute of Environmental and Occupational Medicine, Aarhus Universitet, Bygn. 180, Universitetsparken, 8000 Aarhus C.

The Sick building syndrome in the office environment. The Danish Town Hall Study

Peder Skov/Ole Valbjørn, SBI-Danish Building Research Institute, P.O. Box 119, 2970 Horsholm.

Ventilation requirements in buildings - Compilation of a rational basis for regulations issued by authorities. Phase 1: Offices and meeting rooms. Part 1

Laboratoriet for Varme- og Klimateknik, Danmarks Tekniske Højskole, Bygn. 402, 2800 Lyngby

Ventilation requirements in buildings - Compilation of a rational basis for regulations demands issued by authorities. Phase 1. Offices and meeting rooms. Part 2

Institute of Environmental and Occupational Medicine, Aarhus Universitet, Universitetsparken, Bygn. 180, 8000 Aarhus C

Ventilation systems as a source of indoor air pollution

Lars Mølhave, Institute of Environmental and Occupational Medicine, Aarhus Universitet, Bygn. 180, Universitetsparken, 8000 Aarhus C.

FRANCE**Air and surface quality in two day-care centres in Paris: physico-chemical and bacteriological aspects**

B. Festy, Dr Lambert, Laboratoire d'Hygiène de la Ville de Paris (L.H.V.P), 11, rue George Eastman, 75013 Paris

Assessment of environmental tobacco smoke (ETS) contribution to the indoor air quality

B. Festy, A. Person, A. M. Laurent, Laboratoire d'Hygiène de la Ville de Paris (L.H.V.P),
11, rue George Eastman, 75013 Paris

Bio-contamination and control of refuse shoots in residence buildings

B. Festy, F. Squinazi, A. Mouilleseaux, Laboratoire d'Hygiène de la Ville de Paris (L.H.V.P),
11, rue George Eastman, 75013 Paris

Characterization of indoor air quality in covered swimming pools

A. Person, B. Festy, Laboratoire d'Hygiène de la Ville de Paris (L.H.V.P), 11, rue George Eastman,
75013 Paris

Respiratory symptoms and environmental measurements in two buildings with different ventilation systems

S. Perdrizet, P. Durieux, B. Festy, Laboratoire d'Hygiène de la Ville de Paris (L.H.V.P),
11, rue George Eastman, 75013 Paris

GERMANY

Air conditioning filters as ecosystem and distributor for fungi and fungal allergens

Josef H. Elixmann, Förderverein Allergieforschung e.V. Mönchengladbach, Tomperstraße 27,
4050 Mönchengladbach 6

Concentrations of styrene monomeres in indoor air

Dr.-Ing. H. -J. Moriske, Institut für Hygiene der Freien Universität Berlin, Leiter:
Prof.Dr.med.Rüden, Hindenburgdamm 27, 1000 Berlin 45

Determination of minimum ventilation rates warranting hygienically unobjectionable indoor air quality: the example of formaldehyde and other organic substances (Phase III)

Dr. Jürgen Wegner, Institut für Wasser-,Boden-, und Lufthygiene des Bundesgesundheitsamtes,
Corrensplatz 1, 1000 Berlin 33

Development and application of a model for the computation of radon distribution in houses

Prof. W. Jacobi, Gesellschaft für Strahlen- und Umweltforschung mbH., Institut für Strahlenschutz,
Ingolstädter Landstr.1, 8042 Oberschleißheim

Epidemiological study of the dioxin dose of infants due to indoor air in creches

Dr. Neus, Dr.Sagunski, Freie und Hansestadt Hamburg, Gesundheitsbehörde, Amt für
Gesundheits- und Veterinärwesen, Abteilung G5, Gesundheit und Umwelt, Tesdorpfstr. 8,
2000 Hamburg 13

Experimental animal analyses for risk assessment of indoor air pollutant mixtures

Dr. Ulrich Glaser, Fraunhofer-Institut für Umweltchemie und Ökotoxikologie, Postfach 12 60,
5948 Schmallenberg-Grafschaft

Health consequences of wood preservatives on children in day-care centres

Prof. Dr. Schulte, Dr. W. Karmaus, Universitäts-Krankenhaus Eppendorf, Pediatric Clinic, Institute
for Medical Sociology and Department of Clinical Biochemistry, Martinistrasse 52,
2000 Hamburg 20

Immunological parameters influenced by chlorinated organic compounds

Prof. Dr. med. F. Selenka, Institut für Hygiene, Ruhr-Universität Bochum, Postfach 102148,
4630 Bochum 1

Indoor air pollution in day-nurseries in Schleswig-Holstein

Dr. med. Birger Heinzow, Untersuchungsstelle für Umwelttoxikologie des Landes Schleswig-
Holstein, Fleckenstraße 4, 2300 Kiel 1

Indoor perchlorethylene concentrations in the neighbourhood of dry cleaning shops

Dr. Willfried Dulson, Kirsten Reinhardt, Institut für Umweltuntersuchungen im Amt für Umweltschutz der Stadt Köln, Eifelwall 7, 5000 Köln

Investigations aimed at the preparation of guidelines for the measurement of formaldehyde emissions from furniture and furnished caravans/mobile homes

Dr.rer.nat. R. Marutzky, Fraunhofer-Institut für Holzforschung (WKI), Bienroderweg 54 E, 3300 Braunschweig

Investigations on the contribution of building and renovation materials to odour and pollutant concentrations in indoor air. Development of methods for the measurement, assessment and reduction of emissions from materials

Dr.rer.nat. R. Marutzky, Fraunhofer-Institut für Holzforschung, Bienroderweg 54 E, 3300 Braunschweig

R & D Programme "Ventilation in residential buildings" Sub-project 2150. "Minimum ventilation rates as a function of use pattern and intensity"

Dr. Jürgen Wegner, Institut für Wasser-,Boden-, und Lufthygiene des Bundesgesundheitsamtes, Corrensplatz 1, 1000 Berlin 33

Standardized animal model for the assessment of noxious pollutants inhaled with indoor air

Dr. G. Hoffmann, Institut für Wasser-,Boden- und Lufthygiene des Bundesgesundheitsamtes, Corrensplatz 1, 1000 Berlin 33

Transfer of air pollutants to foodstuff

Dr. R. Weber, Dr. M. Fischer, Dr. C. Krause, Max von Pettenkofer Institut des Bundesgesundheitsamtes, Unter den Eichen 82-84, 1000 Berlin 45

GREAT BRITAIN

Asbestos in the non-occupational environment

Dr. A. P. Rood, Health & Safety Executive, The Occupational Medicine & Hygiene Laboratories, 403, Edgware Rd, London NW2 6LN

Asbestos inventory of the Bloomsbury Health Authority

G. W. Crockford, Department of Occupational Health, London School of Hygiene and Tropical Medicine, Keppel St., London WC1E 9HT

Assembly of data on chemical sensitivity of patients and compilation of assessments

Dr. J. Monro, Allergy and Environmental Medicine Department, Lister Hospital, Chelsea Bridge Road, London SW1

Assessment of airborne asbestos fibres in domestic houses and offices

M. A. Bradley, Institute of Occupational Medicine, 8 Roxburgh Place, Edinburgh EH8 9SU

Assessment of airborne man-made mineral fibres in domestic houses

M. J. Cherrie, Institute of Occupational Medicine, 8 Roxburgh Place, Edinburgh EH8 9SU

A study of air conditioning systems and their effect on Man

Dr. C. A. C. Pickering, South Manchester Health Authority, Wythenshawe Hospital, Manchester M23 9LT

Condensation and mould growth

Dr. J. P. Cornish / Dr. A. F. Bravery, Building Research Establishment, Scottish Laboratory, Kelvin Road, East Kilbride, Glasgow G75 0RZ

Development of a predictive model for air movement and heat distribution in factories

Dr. P. J. Jones and Prof. P. E. Sullivan, Welsh School of Architecture (R&D), UWIST, 20/22 North Road, Cardiff CF1 3DY

Development of passive sampling systems for ammonia and sulphur dioxide

D. H. F. Atkins, Environmental and Medical Sciences Division, B.551, Harwell Laboratory, Didcot, Oxfordshire OX11 0RA

Development of versatile, personal and static samplers

Mr. D. Mark, Institute of Occupational Medicine, 8 Roxborough Place, Edinburgh EH8 9SU

Electrostatic charge properties of aerosols

Mr. A. D. Jones, Institute of Occupational Medicine, 8 Roxborough Place, Edinburgh EH8 9SU

Feasibility of using scale aerodynamic models for ventilation studies

Dr. James H. Vincent, Institute of Occupational Medicine, 8 Roxborough Place, Edinburgh EH8 9SU

Formaldehyde in temporary buildings

Dr. A. Robertson, Institute of Occupational Medicine, 8 Roxburgh Place Edinburgh EH8 9SU

Gases and vapours related to health effects in offices

Dr. A. Robertson, Institute of Occupational Medicine, 8 Roxburgh Place Edinburgh EH8 9SU

Indoor asbestos levels on a housing estate

G. W. Crockford, Department of Occupational Health, London School of Hygiene and Tropical Medicine, Keppel St., London WC1E 7HT

Investigations into the effectiveness of asbestos management and removal programmes in buildings

Miss J. Prentice, McCrone Research Associates Ltd., 2 McCrone Mews, Belsize Lane, London NW3 5BG

Investigation of indoor NO₂ levels in inner city homes with gas cookers and paraffin heaters

Dr. Jane Melia, Department of Community Medicine, United Medical and Dental Schools, Social Medicine and Health Services, Research Unit and Division of Community Health, St. Thomas' Campus, London SE1 7EH

Investigation of indoor-outdoor concentration ratios for nitrogen dioxide

D. H. F. Atkins, Environmental and Medical Sciences Division, B.551, Harwell Laboratory, Didcot, Oxfordshire OX11 0RA

Investigation of specific complaints concerning indoor air quality on a commercial basis

D. H. F. Atkins, Environmental and Medical Sciences Division, B.551, Harwell Laboratory, Didcot, Oxfordshire OX11 0RA

Investigation of the effectiveness of asbestos management and removal programmes in buildings

Mr. C. Purnell, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT

Investigation on heating system options for low energy factories. Study of heat delivery and distribution for radiant and convective systems

Dr. P. J. Jones, Welsh School of Architecture (R&D), UWIST, P.O. Box 25, 20/22 North Road, Cardiff CF1 3DY

Mineral fibre concentrations in domestic houses

J. Dodgson, Institute of Occupational Medicine, 8 Roxburgh Place, Edinburgh EH8 9SU

Monitoring the Thermal Environment in nine offices as part of a 'Sick' Building Study

Dr. P. J. Jones / Prof. P. E. Sullivan, Welsh School of Architecture (R&D), UWIST, P.O. Box 25, 20/22 North Road, Cardiff CF1 3DY

Office environment survey, a Study of building sickness

S. Wilson, Building Use Studied Ltd, 14/16 Stephenson Way, Euston, London NW1 2HD

Relation of the severity of asthmatic symptoms to the use of gas for cooking in the home

Charles du V. Florey, Department of Community Medicine, University of Dundee, The Medical School, Ninewells Hospital, Dundee DD1 9SY Scotland

Respiratory symptoms and lung function effects of exposure to wool textile dust

Dr. R. Love, Institute of Occupational Medicine, 8 Roxburgh Place
Edinburgh EH8 9SU

Sick Building Syndrome: Individual and organizational aspects

Adrian Leman / David Tong, Building Use Studies, 14-16 Stephenson Way, Euston
London NW1 2HD

Solvent concentrations in offices

M. J. Cherrie, Institute of Occupational Medicine, 8 Roxburgh Place, Edinburgh EH8 9SU

GREECE

Determination of mercury levels in the atmosphere of workplaces and the biological samples of dental practitioners

Prof. A. X. Apostolopoylos, Department of Community Dentistry, School of Health Sciences, University of Athens, 2 Thivon str., 11527 Athens

Determination of toxic compounds in air of chemical laboratories and in biological samples of working staff

Prof. P. A. Siskos, Laboratory of Analytical Chemistry, University of Athens, 104 Solonos street, 10680 Athens

ITALY

A regional indoor radon research to test the methodology for a national survey

Prof. G. Campos Venuti, Istituto Superiore di Sanita, Viale Regina Elena, 299, 00161 Roma

Industrial solvents in human biological materials (breath, blood, urine and fat tissue)

Francesco Brugnone / Luigi Perbellini, Istituto di Medicina del Lavoro Universita di Verona, Policlinico Borgo Roma, 37134 Verona

Industrial solvents in indoor air

Francesco Brugnone, Istituto di Medicina del Lavoro Universita di Verona, Policlinico Borgo Roma, 37134 Verona

IRELAND

Investigation of complaints by the occupants of a multistory open plan office block in relation to air quality / comfort conditions

P. A. Wright, EOLAS, The Irish Science & Technology Agency, Glasnevin, Dublin 9

THE NETHERLANDS

Air-tight houses

W.F. de Gids, Hoofdgroep Maatschappelijke Technologie TNO, Afdeling Binnenmilieu, Postbus 217, 2600 AE Delft

Allergens of plants and their effects

J. M. Martens, Katholieke Universiteit Nijmegen, Faculteit der Wiskunde en Natuurwetenschappen, subfaculteit Biologie, vakgroep Botanie II, Toernooiveld, 6525 ED Nijmegen

Assessment of the health risk of the soil pollution Steendijkpolder at Maassluis, the Netherlands

J. H. van Wijnen, Gemeente Amsterdam, Gemeentelijke Geneeskundige en Gezondheids Dienst, Sector Volksgezondheid en Milieu, Nieuwe Achtergracht 100, 1018 WT Amsterdam

Causes of CNSLD in children and adolescents, with special regard to air pollution

P. J. van der Maas, Rijksuniversiteit Rotterdam, faculteit der Geneeskunde, Instituut voor Maatschappelijke Gezondheidszorg, 3000 DR Rotterdam

Construction Materials

J. G. Wiebenga, Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek TNO, Hoofdgroep Maatschappelijke Technologie, Postbus 217, 2600 AE Delft

Discoloration of surfaces in houses

J. F. van der Wal, Hoofdgroep Maatschappelijke Technologie TNO, Afdeling Binnenmilieu, Postbus 217, 2600 AE Delft

Enumeration and identification of airborne viable mould propagates in houses. A comparison of selected measurement techniques

A. Verhoeff, Gemeente Amsterdam, Gemeentelijke Geneeskundige en Gezondheids Dienst, Sector Volksgezondheid en Milieu, Nieuwe Achtergracht 100, 1018 WT Amsterdam

Heat

H. de Waal, Hoofdgroep Technisch-Wetenschappelijke Diensten TNO, Technisch Fysische Dienst TNO-TH, Stieltjesweg 1, 2600 AD Delft

Indoor air pollution

H. J. v.d. Wiel, Rijksinstituut voor de Volksgezondheid en Milieuhygiene, Antonie van Leeuwenhoeklaan 9, 3721 MA Bilthoven

Integrated exposure of (risk) populations to some air pollutants and correlated health effects

B. Brunekreef, Department of Environmental and Tropical Health, Agricultural University, P.O. Box 238, 6700 AE Wageningen

Integrated exposure of (risk) populations to some air pollutants and related health effects

J. S. M. Boleij, Landbouwniversiteit Wageningen, Vakgroep Luchthygiene en Veronreiniging, De Dreijen 12, 6700 EV Wageningen

Models for indoor air quality

R. W. Lanting, Hoofdgroep Maatschappelijke Technologie TNO, Afdeling Binnenmilieu, Postbus 217, 2600 AE Delft

Mutagenicity of Indoor Air

J. J. van Houdt, Landbouwniversiteit Wageningen, Vakgroep Toxicologie, De dreijen 12, 6703 BC Wageningen

Organic air pollution in living-rooms

H. J. v.d. Wiel, Rijksinstituut voor de Volksgezondheid en Milieuhygiene, Antonie van Leeuwenhoeklaan 9, 3721 MA Bilthoven

Organic solvents in a car-body repair shop, a offset printing factory, silk screen printing factory and surrounding houses

A. Verhoeff, Gemeente Amsterdam, Gemeentelijke Geneeskundige en Gezondheids Dienst, Sector Volksgezondheid en Milieu, Nieuwe Achtergracht 100, 1018 WT Amsterdam

Residential indoor air contamination by screen printing plants

A. Verhoeff, Gemeente Amsterdam, Gemeentelijke Geneeskundige en Gezondheids Dienst, Sector Volksgezondheid en Milieu, Nieuwe Achtergracht 100, 1018 WT Amsterdam

Sick Building Syndrome

R. W. Keulen, Groep Beleidsstudies en Informatie TNO, Studie- en, Informatiecentrum voor Milieu-Onderzoek, Schoemakerstr. 97, 2600 AD Delft

Survey on health aspects and quality in the indoor environment

R. G. de Jong / J. E. F. van Dongen, TNO Institute of Preventive Health Care (NIPG-TNO), P.O.Box 124, 2300 AC Leiden

The relation between soil pollution and indoor air pollution with volatile organic compounds

T. Fast, Gemeente Amsterdam, Gemeentelijke Geneeskundige en Gezondheids Dienst, Sector Volksgezondheid en Milieu, Nieuwe Achtergracht 100, 1018 WT Amsterdam

SWITZERLAND**Air Pollutants-Contamination of Foodstuff**

B. Zimmerli, Bundesamt für Gesundheitswesen, Lebensmittelkontrolle, Haslerstrasse 16 3008 Bern

Feasibility of a guide for the prevention of psycho-physiological annoyance at the workplace in non-industrial environments

M.P. Guillemin, Institut universitaire de médecine et d'hygiène du travail, Rue du Bugnon 19, 1005 Lausanne

Indoor air contamination by technical substances

A. Tuor, Kantonales Laboratorium Luzern, Vonmattstrasse 16, 6002 Luzern

Measurement of carbon dioxide and odours of the indoor air to control the fresh air supply

Hans-Urs Wanner, Department of Hygiene and Applied Physiology, Federal Institute of Technology Zürich, 8092 Zürich

Mechanisms influencing the indoor radon concentration

Dr. R. Crameri / Dr. W. Burkart, Radiation Hygiene Division, Paul Scherrer Institute vormalig EIR 5303 Würenlingen

Questionnaire for evaluating indoor air problems

M. Zingg, Zingg Markus, Hochstrasse 55, 8200 Schaffhausen

State-of-the-art analysis of ventilation systems for buildings of various use-types

Dr. C. Filleux, Basler & Hofmann AG, Forchstrasse 395, 8029 Zürich

Strategies to avoid negative health effects of passive smoking

Hans-Urs Wanner, Department of Hygiene and Applied Physiology, Federal Institute of Technology Zürich, 8092 Zürich

Tobacco Smoke

J. Schlatter, Bundesamt für Gesundheitswesen, Lebensmittelkontrolle, c/o Institut für Toxikologie der ETH und UNI Zürich, Schorenstrasse 16, 8603 Schwerzenbach

The possibility to calculate the indoor-concentration of substances

M. Zingg, Zingg Markus, Hochstrasse 55, 8200 Schaffhausen

The possibility to estimate the toxicological effects of indoor pollution

M. Zingg, Zingg Markus, Hochstrasse 55, 8200 Schaffhausen

COMMISSION OF THE EUROPEAN COMMUNITIES, JOINT RESEARCH CENTRE, ISPRA

CONCERTED ACTION "INDOOR AIR QUALITY AND ITS IMPACT ON MAN" (COST 613)

PROJECT INVENTORY

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| Institute, address: | | a |
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| Name of principal investigator: | | Telephone No: |
| Descriptive project title: | | |
| Keywords (see attached list) : | | |
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European Communities - Commission

**EUR 13838 – European concerted action
"Indoor Air Quality and Its Impact on Man"
former COST Project 613:
Project Inventory 2nd Updated Edition**

The Concertation Committee

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1991 – I-VIII, 152 pp. – 21.0x29.7 cm

Series: Environment and quality of life

EN

This report gives short descriptions of 325 research projects and investigations originating from 14 European countries and the Joint Research Centre aimed at understanding causes and/or effects of inadequate indoor air quality and at removing or mitigating such causes. The descriptions contain the project title, keywords, name, address and phone number of the principal investigator(s) and the year of the project start and expected project end. A list of keywords and for each of these keywords the identification numbers of the project reports in which they are referenced, an alphabetical list of the principal investigators along with the identification numbers of their projects and a list of projects completed before the end of 1988 and reported in the first edition of the inventory are also included.