

KEYWORDS: Volatile and Semi-Volatile Organic Compounds (VOCs, SVOCs), Materials, Environmental Impact, Oxidation Processes, Photocatalysis

OUR AIMS

Respond to various issues for which it is relevant and necessary to measure VOC and SVOC levels:

- Innovative (e.g. bio-based) materials
- Technologies and materials for improving air quality
- Oxidation processes: air or water treatment
- New substances and emerging pollutants (new additives etc.)
- Help in choosing materials for improving the indoor air quality of new construction systems

ACTIVITIES

- Impact assessment of materials/products/processes on health and the environment
- Development and application of measuring techniques
- Assessment of the performances and innocuousness of materials and processes (in the lab and *in situ*)
- Assessment of how long these properties last

SPECIFIC FEATURE

Collaboration and mutualisation of 3 laboratories in a technology cluster unique in the Aquitaine region:



FIELDS OF APPLICATION

- Buildings, furniture
- Automobile industry
- Environment and energy
- Food industry
- Cosmetics

KNOWHOW

- Metrology of VOCs and SVOCs in different matrices and at the material-air interface, development of methods adapted to particular requirements
- Design and implementation of testing procedures (pilot units, reactors)
- Development of aging tests for materials and processes
- Impact of pollutants on cell cultures and *in vitro* models

SCIENTIFIC EXPERTISE

- Analysis of VOCs and SVOCs (passive samplers, sensors and chromatographic techniques)
- Study of exchanges between materials and air (emission, adsorption, desorption) and between materials
- Validation and comprehension of advanced oxidation processes (air or water treatment)
- Assessment of photocatalytic air purification materials and systems
- Study and modelling of the air quality of indoor environments (buildings, vehicles, etc.)

WHAT WE PROVIDE

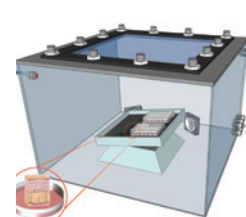
Collaborative research
Expert assessment

Training
Services
Feasibility studies

MAJOR PARTNERS : Nobatek/INEF4, FCBA, Renault, ETHERA, ARKEMA, M2I, Cristal Union, LVMH...

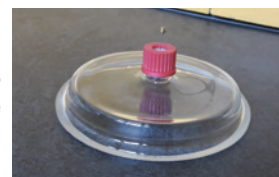


On-line analysis of VOCs (SIFT-MS)



Impact of VOCs on cell cultures

Measuring emissions on-site (DOSEC system)



Some of our equipment



Natural and controlled-condition aging



IMT Mines Alès
École Mines-Télécom

ALCOVES

Technological Platform

*Analysis of Volatile Organic Compounds
and their Impact on Health and the Environment*

RECENT PROJECTS



*Test benches in the laboratory and
real-scale testing (OAI&CO Module)*

Indoor air quality of buildings

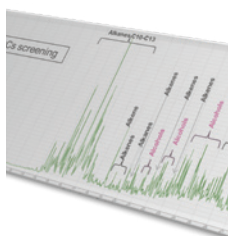
SafePHOTOCAT Project: Assessment of the efficacy and innocuousness of commercial photocatalytic indoor air treatment systems
SafeMATER Project: Assessment of the emissions and performances of commercial bio-based/depolluting materials regarding indoor air quality



University of Pau and Pays de l'Adour



Energy Transition Institute



*Extrusion of a polymer
Analysis of the VOCs emitted*

Innovative food packaging

Innovative, fully recyclable, health-risk-free plastic food wrap
Study of VOC emissions in function of polymer formulation and the number of times it is recycled (simulation by extrusion)
Environmental impact assessment



University of Pau
and Pays de l'Adour



University of Perpignan
Via Domitia



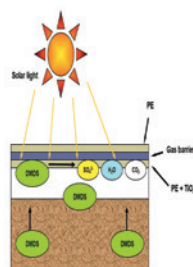
Pyrénées Adour Expérimental
Food Engineering Station



University of
Zaragoza



Food Engineering
Technology Centre



*Diffusion of pheromones
Testing of an agricultural film*

Agriculture

- Pheromone diffusers made of biodegradable materials to combat vine and corn pests
- Innovative agricultural film for fumigation: limitation of VOCs released into the atmosphere, real-scale application



University of Pau
and Pays de l'Adour



SanM2I Life Science
Health / Animal and
Plant Biocontrol



R&D: composite
products and
advanced materials



Technical
Agricultural
Institute



Supporting cooperative
for sustainable
development

MAIN EQUIPMENT

- SIFT-MS and specially adapted vehicle for on-site measurement (On-line identification and quantification of VOCs)
- ATD-GC-MS, HS-GC-MS (VOCs in air, liquids, solids)
- UHPLC (formaldehyde, aldehydes, SVOCs)
- Online analysers (VOCs, NOx, O3, CO/CO2)
- Pilot units, reactors, emission test chambers and micro-chambers
- Climatic and QU-V chambers

The IMT Mines Alès research centers

- C2MA Materials Research Center
- LGEI Center of Industrial Environment and Industrial and Natural Risk
- LGI2P Center of Computer and Production Engineering

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Platform co-financed by



**You want to
develop a project ?**

Contact details

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