



Société Chimique de France

## Ecole d'automne 2013

Organized by the Group  
« *Dégradation et comportement au feu  
des matériaux organiques* »  
Of the Société Chimique de France

### « Degradation of fire-retarded polymers in environmental conditions »

**24 - 26 September 2013**

**Mèze (34) - FRANCE**



rhône-alpes



## OBJECTIVES

The group "Degradation of organic materials and Fire behavior" of the Chemical Society of France offers a workshop focused on Degradation of fire-retarded polymers in environmental condition in order to :

- give people the basic knowledge in the domains of ageing and fire-retardancy
- gather in a two days meeting two different communities with the aim of understanding the impact of environmental ageing of fire-retarded polymers on the use properties of the polymeric material
- establish a bond between investigators in the various parts of the fields and to provoke a reflexion on future collaborative programs.

The workshop will be organised on the basis of a four half-days meeting. Each session will be devoted to one-two peculiar aspects and will be introduced by general presentations followed by short presentations on recent results.

This workshop could be placed under the auspice of the MoDeSt Society.

## ORGANIZING COMMITTEE AND SCIENTIFIC COMMITTEE

ACOME, C. LAGREVE  
ARDI – Materials and Process, M. LEFEBVRE  
Centre des matériaux/EM Alès, JM. LOPEZ-CUESTA et L. FERRY  
CRP HENRI TUDOR, A. LAACHACHI  
CTTM Le Mans, D. DELAVAL  
ICCF/Université Blaise Pascal, JL. GARDETTE  
LMOPS/Université de Lorraine, M. FERRIOL et M. COCHEZ  
LNE, C. CHIVAS-JOLY  
MAEDER RESEARCH, Groupe MAEDER, H. FARGE  
UNIVERSITÉ DE CORSE, T. BARBONI

## **THUESDAY, 24 SEPTEMBER AFTERNOON**

13:00 Welcome

13:30 Introduction of the workshop

13:40 **General Introduction :**  
Improving Weathering Resistance of Flame Retarded Polymers  
*Rudolf PFAENDER, Fraunhofer Institut*

### **Session I : Scientific basis of fire-retardancy of polymeric materials**

14:40 **General approach of Flame Retardancy of Polymers**  
*Laurent FERRY, Ecole des Mines d'Alès and Marianne COCHEZ, Université de Lorraine*

- Flame Retardant Mechanisms
- Various Classes of Flame Retardants
- Analytical methods

16:40 Coffee break

### **17:00 Short presentations**

- Normative aspects of the reaction to fire  
*Carine CHIVAS-JOLY, LNE*
- Positioning of tests of reaction to fire at laboratory scale compared to industry standards and testing,  
*Rodolphe SONNIER, Ecole des Mines d'Alès*

## **WEDNESDAY, 25 SEPTEMBER**

### **Session II : Scientific basis of polymer ageing**

*During this session the basic concepts of the polymer degradation will be presented. Focus will be given on ageing carried out in environmental conditions, which includes the action of the environmental parameters like light, temperature, oxygen, water, atmospheric pollutants...*

8:30 **State of the art**  
*Jean-Luc GARDETTE, ICCF*

- Various types of ageing
- Basis of polymer degradation and stabilisation

9:30 **Analytical methods for polymer ageing and failure**  
*Pierre-Olivier BUSSIÈRE, ICCF*

- Consequences of ageing on the degradation of the functional properties of polymeric materials
- Analytical methods: from the molecular level to the macroscopic functional properties

10:30 Coffee break

### **10:50 Short presentations**

- NOR-based Flame Retardant, Stabilizer and Versatile Synergist  
*Margot CLAUSS, Heinz HERBST, BASF*
- Other presentations, *Name of Speaker to be confirmed*

11:50 Lunch break

### **Session III : Influence of fire-retardant on the environmental ageing of polymers**

*Two aspects should be investigated: at first, what are the impact of fire retardants on the photochemical ageing of polymers and what about the interactions with the classical stabilisers used to protect the polymer from ageing? Secondly, is there an impact of the degradation of the polymer on the fire retardancy properties? There is not so much literature that deals with the degradation of fire-retarded polymers exposed to environmental conditions. Both these questions will be the core of this workshop.*

14:00 **State of the art - Recent results**  
*Sandrine THERIAS, ICCF*

15:00 **Short presentations**

16:00 **Social program**

## **THURSDAY, 26 SEPTEMBER 2013**

### **Session IV : Consequences of ageing on the fire retardant properties of polymers**

#### **Introduction**

*Bernhard SCHARTEL, Bundesanstalt für Materialforschung und Prüfung (BAM)*

9:00 **State of the art - Recent results** (literature review)  
*Hossein VAHABI, Université de Lorraine*

10:00 **Short presentations**

- Fire performance of aged cables (*Name of Speaker to be confirmed*)
- Impact of aging on the reaction to fire of crosslinked elastomers  
*Damien DELAVAL, CTTM*
- Impact of aging on the reaction to fire of reinforced polyamide 6  
*José-Marie LOPEZ CUESTA, C2MA*

11:30 **General discussion- New research programs**

12:00 Lunch break

*End of the workshop*

*Subject to change  
(status as of 02 May 2013)*

## WORKSHOP LOCATION :

### Village Club Thalassa

Rue de la Méditerranée

34140 Mèze

Tel : 04 67 43 82 74

[www.villagethalassa.com](http://www.villagethalassa.com)



## WORKSHOP REGISTRATION FORM

*(before july the first)*

Name : .....First Name : .....

Function:.....

Society : .....

e-mail : .....

Adress : .....

Zip Code : ..... City : .....

Phone : ..... Fax : .....

N° de SIRET : .....

Please check appropriate boxes:

a check of : ..... Euros payable to « **Association groupe comportement au feu** »

order form,

for ..... x inscription(s)

Full price

PhD

Date and signature :

### REGISTRATION FEES :

Fees including full conference participation, the authority for downloading the presentations on the internet as well as coffee and lunch breaks, and accomodation

	Before july the first	After july the first
<b>Full Price</b>	<b>350 €</b>	<b>400 €</b>
<b>For PhD</b>	<b>250 €</b>	<b>300 €</b>

### REGISTRATION TO RETURN TO:

**Monsieur Michel FERRIOL**

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