WILLIAM BLYTHE **- developments in fire resistant materials:**

At a glance: A leader in inorganic chemistry, William Blythe's products include flame retardants Flamtard H and Flamtard S. These counteract flame/smoke formation, whilst having no hazard classifications for health or the environment.

For both halogenated and halogen-free systems, work at Bolton University has identified flame retardants with which Flamtard S and Flamtard H can show synergistic activity in commercial polymer systems.

In a parallel work with EPSRC CASE studentship, novel, non-toxic, environmentally benign, synthetic inorganic compounds are being researched. These can impart fire retardance and smoke suppression to selected high performance polymers without use of conventional halogen-containing flame retardants and synergists.

Challenge: Meeting the polymer industry's aspiration to use non-hazardous and environmentally benign products, William Blythe Ltd. wished to understand the effectiveness of the Flamtard range in greater detail in order to promote it even more effectively and to develop new such systems.

Approach: Wm. Blythe sponsored a work programme at the University of Bolton, led by a highly skilled post-doctoral researcher. Flame retarded polymer compounds based on commercial formulations were prepared at the Fire and Materials Laboratory. Using measurement techniques including Cone Calorimetry the effectiveness of Flamtard products was established.

With CASE studentship other inorganic flame retardant chemicals are being studied.

Benefits: Project data is being used to advise on the most effective ways to use Flamtard and to assist sales expansion into new applications.

KCMC Support: KCMC assisted Wm. Blythe to win an EPSRC funded PhD Studentship (2011) and assisted in securing funding for a further two PhD Studentships to continue the research, commencing in Q4 2013.

Timeline: Ongoing, to end 2016.