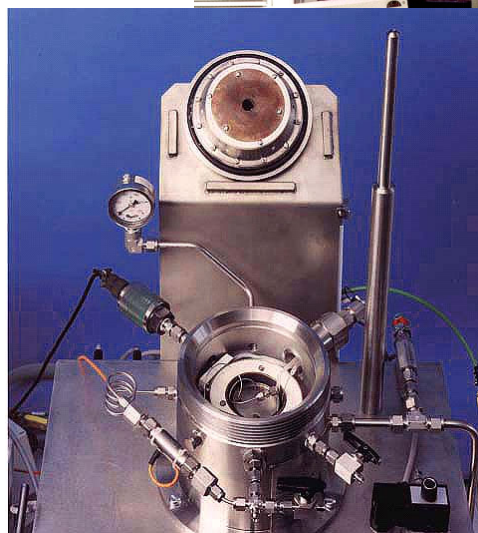
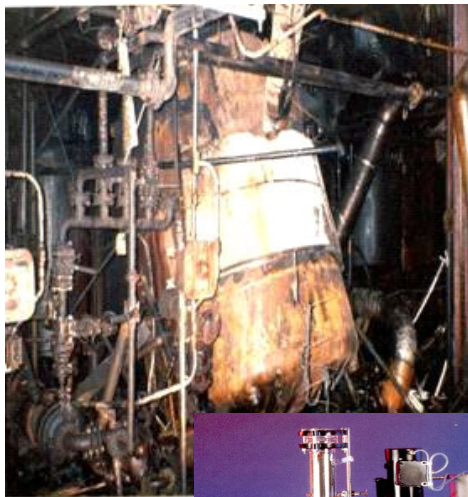




# REACTIVE CHEMISTRY

## *Complete Chemical Hazards Evaluation*



### **Reactive chemicals are in the news!**

In 2002, the US Chemical Safety and Hazard Investigation Board released a report that focused on chemical reactivity, both planned and unplanned. A principle finding of the Board's report was that chemical process upsets, caused by unexpected chemical reactivity, have led to many fatalities in this industry. Earlier this year the Center for Chemical Process Safety published a book on managing chemical reactivity hazards.

**BakerRisk Hazards Testing Facilities:** It is difficult, often impossible, to confidently design a safe manufacturing process without fully understanding the process chemistry, especially under upset conditions. Chemical reactivity hazard testing provides this much-needed information. We supply both testing services and expert consulting to fulfill your reactive chemical process safety needs. We run dedicated laboratory testing facilities for the full investigation of thermal stability, chemical reactivity and custom hazards testing. Our facilities are used by companies who need to comply with regulatory requirements for process safety management; need to investigate chemical manufacturing accidents and incidents; or wish to optimize a manufacturing process.

BakerRisk's experienced senior chemical hazards consultants are Ph.D. chemists and chemical engineers who are internationally recognized, widely published, and are frequently invited speakers at national conferences.

**Clients of Our Testing Services:** BakerRisk's client base includes manufacturing companies in fine chemicals and pharmaceuticals, commodity organics and plastics, dyestuffs and pigments, and petrochemicals. We are widely known and well respected by the legal and insurance industries. We have provided expert witness and testing services for commercial clients and the Federal Government.



# REACTIVE CHEMISTRY

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### About BakerRisk

Baker Engineering and Risk Consultants, Inc. is one of the world's leading explosion analysis, structural design, and risk engineering companies. BakerRisk provides comprehensive consulting, engineering, laboratory and range testing services to government agencies and private companies who are involved with dangerous, highly hazardous, reactive, or explosive materials.

✦  
Blast Effects & Explosion Testing

✦  
Dynamic Structural Analysis  
and Design

✦  
Risk Engineering

✦  
Process Safety

✦  
Incident Investigations

✦  
Reactive Chemicals Testing &  
Management Systems

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

**Process Hazard Analyses and Chemical Hazards Testing** Many times the hazard analysis techniques used to evaluate a process require thermal stability and chemical reactivity data to provide meaningful results for the client. During an analysis, our consultants can call on the services of our testing labs and large-scale range facilities to produce the needed data. The testing group will provide data from tests, such as conventional adiabatic or reaction calorimetry, or will develop new testing procedures to generate the data the facilitator needs to accurately assess the safety requirements of our clients.

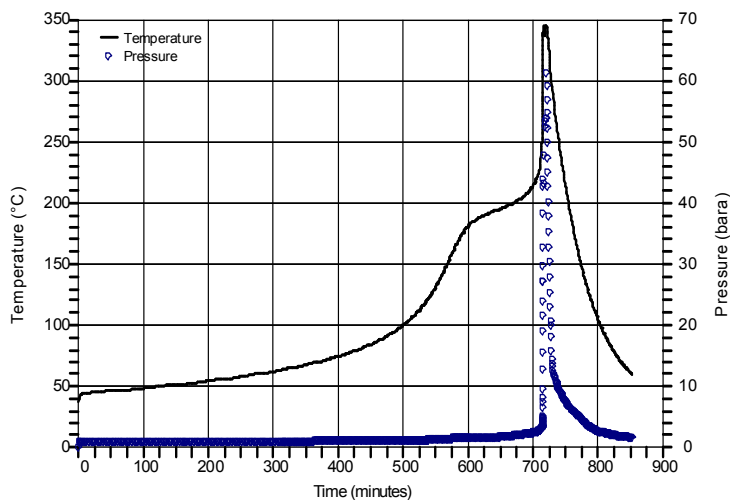
### Data Requirement

Desired Chemistry  
Runaway Reaction  
Emergency Relief Sizing  
Process Optimization  
Vapor Cloud Flammability  
Explosivity Testing

### Technique

Reaction Calorimetry  
Adiabatic Calorimetry  
Adiabatic Calorimetry  
Reaction and Custom Calorimetry  
Custom Design Equipment  
Card Gap, Konen, Cook-off, Dust and Vapor

We also provide our clients with the data derived from customized tests to satisfy a specific requirement.



**Accident Investigation and Hazards Testing** BakerRisk's international reputation in the area of accident investigations is backed by the full services of the chemical hazards testing group. The lab provides small-scale reactivity and stability information while our range testing facilities provide the data when tests requiring more than one pound of potentially explosive material are needed. We use our test data and facilities to prove or disprove accident scenarios and to develop the basis of safety for post-accident operations.