

the experts in process safety

# Powder

## Hazard Assessment Data

*Essential data for hazard assessment and the prevention of fires and explosions in processing plants.*



### PROCESSING POWDERS

If you process powder you may run the risk of fire and explosion in the workplace with consequential injury to people and damage to plant. Only by reviewing the processes and performing a thorough risk assessment can you feel confident you have an adequate basis of safety. Chilworth Technology has been helping companies with this task for many years, providing consultancy advice and test data.

How to select the appropriate safety tests required to comply with good working practice is part of the challenge faced by all conscientious companies. The following table is a starting point for considering risk assessment for any flammable powder.

Test Data \ Process	Ignition Sensitivity	Explosion Severity/Limits	Electrostatic Properties	Burning Behaviour	Thermal Stability
Charging	✓		✓		
Blending	✓	✓	✓	✓	
Milling	✓		✓	✓	✓
Drying	✓	✓	✓	✓	✓
Pneumatic Conveying	✓		✓	✓	
Dust Collection	✓	✓	✓	✓	
Discharging	✓		✓		
Storage	✓	✓	✓	✓	✓

### THE CHILWORTH SERVICE

Because every plant is different we believe that expert advice is the surest way to avoid unnecessary testing. Our team of process safety specialists are on hand to guide you in selecting the appropriate tests for your particular situation.

We operate the world's largest Good Laboratory Practice (GLP) compliant contract process safety laboratories, capable of carrying out all recognised tests according to the latest test standards. Our testing capabilities are supported by experienced consultants who can assist in the interpretation and application of data.

*If your plant processes powder you need safety data.*

### CAPABILITIES

Our modern laboratories have the capability of producing the following test data:-

- Dust Cloud Flammability
- Minimum (Dust Cloud) Ignition Temperature (MIT)
- Layer Ignition Temperature (LIT)
- Limiting Oxygen Concentration (LOC)
- Burning Rate of Solids (Fire Train)
- Thermal Stability in Bulk Powder
- Thermal Stability in Powder Layers
- Minimum (Dust Cloud) Ignition Energy (MIE)
- Volume Resistivity, Charge Relaxation and Chargeability
- Explosion Severity
- Minimum Explosive Concentration (MEC)
- Burning Behaviour of Powders
- Thermal Stability in Aerated Powder
- Thermal Stability for Storage Situations

*...and these are the most common from a list of over 120 industry recognised tests.*

Additionally, we are involved daily with transportation classification and regulatory physico-chemical data which can be determined within this laboratory. For a full list of tests available please contact our Client Support Team on +44 (0)23 8076 0722

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Technology

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### THE BENEFITS

From Chilworth you obtain:-

- Impartial, professional and confidential advice.
- Fast and economical service.
- Expert advice on the selection of tests and on the interpretation of results.
- Access to laboratories which can safely test highly active and toxic material.
- Experienced process safety specialists available to assist with the application of data, hazard assessment of plant or investigation of incidents.
- The confidence of knowing that data comes from GLP compliant laboratories.



### Testing to GLP Standard



### Consultancy



### Training



### OTHER CHILWORTH SERVICES

We offer a range of testing and consultancy services to the processing industry, covering:-

- Dust/Gas/Vapour Explosions
- Electrostatic Hazards
- Hazardous Area Classification
- Chemical Reaction Hazards
- Chemical Process Optimisation
- Regulatory Testing (NONS, CHIP, CPL, UN)
- ATEX Audits
- Major Hazards (Seveso II / COMAH)
- HAZOP
- Incident Investigation
- Expert Witness
- Training

For further information and a comprehensive list of the testing services available, please contact one of our offices detailed below.

### CONTACT

Process safety experts are on hand at the following sites:-

#### Chilworth Technology Ltd

Beta House, Chilworth Science Park,  
Southampton, SO16 7NS, UK  
Tel: +44 (0)23 8076 0722  
Fax: +44 (0)23 8076 7866  
E-mail: [marketing@chilworth.co.uk](mailto:marketing@chilworth.co.uk)  
Internet: [www.chilworth.co.uk](http://www.chilworth.co.uk)

#### Chilworth Technology Inc

Princeton Corporate Plaza,  
11 Deer Park Drive, Monmouth Junction,  
NJ 08852, USA  
Tel: +1 732 274 0900  
Fax: +1 732 274 1371  
E-mail: [marketing@chilworth.com](mailto:marketing@chilworth.com)  
Internet: [www.chilworth.com](http://www.chilworth.com)

#### Chilworth Technology Italia

Tel: +39 339 38 99 723  
Fax: +39 039 92 77 775  
E-mail: [info@chilworth.it](mailto:info@chilworth.it)  
Internet: [www.chilworth.it](http://www.chilworth.it)

**For further information telephone 023 8076 0722**