

We are



Dear Vahid,

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## Process Safety Dispatch

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- Virtual live Training - EXPLOSIONS - Nov 15 & 16
- NFPA 484 - Standard for combustible metals, metal powders, and metal dusts

**Fatal Blender Explosion:  
It does not have to be this way**



The task in hand was to blend recently milled metal powders – titanium or zirconium - before transfer to a hydraulic press for compaction into disks. In December 2010, one particular batch was never completed. In fact, that batch provided the fuel for a dust fire and explosion, originating inside a ***paddle blender***, resulting in the deaths of 3 operators; 2 died at the scene and the 3<sup>rd</sup> died later with severe burn injuries.

Yet milling and blending and compacting can be carried out safely, so long as hazards are identified, risks assessed, and precautions taken to protect life and the business. Metal dust fires and explosions present special risks that can be challenging - but not impossible - to contain.

In this issue of Process Safety Dispatch, we look at dust explosions in blenders, beginning with what went wrong with the metal blending operation described above. In our second article, we then take a look at [NFPA 484](#) and the opportunities it affords to reduce the risk of metal dust fires and explosions in industrial processes.

[Read More](#)

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**Upcoming Virtual Live Training Course**  
- Explosions - Nov 15th & 16th



## Explosions

Gases, vapors, aerosols, fibers, dusts and more. We all know they can (and do) explode uncontrollably in industry threatening life, community, and business integrity. Yet, explosions and flash fires can be prevented and controlled... if you have the knowledge, experience and sometimes ingenuity. Our 'Explosions' course is your key to a safer plant – and peace of mind.

Our bitesize course takes you from understanding to hazards analysis, to explosion prevention and protection techniques and through to compliance with standards and guidelines. And we do this with copious doses of video and case study material built up from years of practical experiences.

[For more info & Registration](#)

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**It's all about NFPA 484: Standard for Combustible  
Metals, Metal Powders, and Metal Dusts**



In previous issues of Process Safety Dispatch, you would have read many items on dust explosions and [NFPA 652](#), Standard on the Fundamentals of Combustible Dusts; **but metals dusts are different**. They sometimes have unusual fire and explosion properties and require exceptional prevention and protection measures. So much so that metal dusts have their own dedicated 'Standard for Combustible Metals' – [NFPA 484](#) [Ref 1]. If you produce, use, handle, finish, or store metal and if that metal is combustible, then this standard is for you..... [read-on!](#)

[Read More](#)



### Expert Consulting

- Dust Explosion Prevention & Mitigation
- Control of Static Electricity
- Hazardous (Electrical) Area Classification
- Process Hazard Analysis
- Process Safety Management
- Fire and Explosion Hazard Assessment
- Incident Investigation
- Organizational Process Safety Competency Assessment

### Specialist Laboratory Testing

- Combustible Dust Testing
- Electrostatic Testing

- Self-Heating / Thermal Instability Testing
- Flammability Testing of Gases & Vapors



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