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Dear Vahid, March 2023

# **Process Safety Dispatch**

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**Electrostatic Discharges from Plastic Plant & Equipment** 



Stonehouse Process Safety inbound enquiries; emails ping; the phone warbles - with an electrostatic question.

- "Is it safe to use a plastic dip pipe in a flammable vapor atmosphere?"
- "Can I use plastic bags to transport my powder?"
- "Do I need static-dissipate drums for my low flash-point liquids?"
- "Is there an electrostatic hazard with the super sacks (FIBCs) we are using?"
- "Can my ATEX certified equipment with a plastic case really be used in a 'classified' vapor-air zone?" ....... the list goes on .......

All the above are concerned with the use of **insulators** ('plastics') in flammable vapor or dust cloud atmospheres, and there is a lot of confusion about this. It's time to address static electricity again!

We have written before about the use of plastics in flammable atmospheres, see our article here: Manually Transferring Powders: Explosion Risk Explained - Stonehouse Process Safety (stonehousesafety.com), frequently commenting on the major risk of how equipment made from insulating materials can create isolated conductors; a plastic pallet under a conducting drum collecting powder or liquid; plastic sleeves or connectors on metal pipes used for pneumatic conveying of powders.... But this time we get to the basics and look specifically at the static discharges you get from plastic surfaces themselves, far removed from conductors. [If you're interested in plastic backed by conductors, see our video Propagating Brush Discharges - YouTube. The situation we address now is the ignition hazards of discharges that can arise from plastic surfaces that become electrostatically charged, usually by rubbing, and the energy content of the static discharges that often result.



Upcoming Virtual Live Training Course
- Static Electricity - April 11 & 12



Static Electricity - Electrostatic Hazards in Industry

Static electricity is a devious subject. Fear not. We have it covered in this neat course designed for those who want to understand how static sparks arise in industry – and what to do to control this most elusive of ignition sources. We walk you through from the basics of the subject to help you understand where it all starts, we enthrall you with new video clips of the subject, filmed in our own labs and we lay out practical options available to control static electricity on your plant.

For more info & Registration

## **Other Upcoming Virtual Live Training Courses**

#### **Hazardous Area Classification (HAC)**

May 16 & 17, 2023 - 1:00pm-4:00pm EST

You've got flammable atmospheres at your facility. You've got electrical equipment at your facility. Better make sure the two never meet! In our bitesize hazardous area classification course, we aim to have you understanding the requirements of the standards, explain good industrial practice and point you in the right direction to ensure your plant is same from the fire and explosion hazards presented by electrical equipment. For more information and to register, click here.

#### **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



#### **REQUEST A QUOTE**

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