TOOLBOX TALK AWARENESS PACKAGES

HAZ-SCD · Static Electricity and Combustible Dust Awareness

Product Overview

Audience: Workers and supervisors who handle flammable liquids, powders, grain, flour, sugar, wood, plastics or metal dusts, and the people who maintain the plant · Duration: 20–30 minutes

Version 1.0 · 22 November 2026

For anyone who handles flammable liquids, powders, grain, flour or other dusts that burn: how static electricity can start a fire, how dust can explode, and the controls from bonding and earthing to keeping the dust down and the sparks away.

Static electricity builds up when liquids, powders and grain flow, when plastics rub, and on people. A static spark can ignite flammable vapours or a cloud of fine dust. Many everyday materials make dust that burns or explodes: flour, sugar, grain, milk powder, wood, plastics, some metals and chemicals. A small dust explosion can shake down settled dust and set off a much bigger one.

This talk covers how fires and explosions start, where static builds up, why dust that settles on ledges and beams is dangerous, and the controls: bonding and earthing kept intact, the right containers and equipment for hazardous areas, filling slowly, keeping dust in the system and cleaning it up with suitable vacuums, never compressed air, and keeping sparks and heat away. It is awareness, not hazardous area or electrical training.

Learning outcomes

By the end of the session participants will be able to:

- Explain what it takes for a fire or explosion, and why a cloud of fine dust in an enclosed space can explode
- Recognise where static builds up: flowing liquids and powders, plastic containers and funnels, conveyors, and people
- Name the dusts at work that can burn or explode, and why settled dust on ledges, beams and in ducts is fuel for a bigger explosion
- Use the controls for static: bonding and earthing kept connected, the right containers and equipment, and filling slowly
- Keep dust down: in the system, cleaned up with suitable vacuums, never blown with compressed air, and sparks and heat kept away
- Follow the rules for hazardous areas, hot work and refuelling, and report damaged bonding, dust build-up and sparks

What it covers

Module	Covers
Why it matters	Fire and explosion in plain terms; Where static builds up; Dust that explodes
Controls that work	Bonding and earthing; Keeping dust down; No sparks in hazardous areas
Your part	Check before you transfer; Clean up the right way; Report it

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Activities

- Spot the risk: workers look at four jobs, from pouring solvent into a plastic bucket to blowing flour dust off a mixer with an air hose, and decide where the ignition and the fuel are and how to control them
- What would you do: workers decide what to do in four situations, from a broken bonding clip on a drum to a grinder being used next to a dust collector

What is in the package

Item	File
Editable PowerPoint presentation with speaker notes, plus PDF	02_TRAINING_PRESENTATION/Training Presentation.pptx and .pdf
Facilitator guide with a running sheet, discussion prompts and model answers	03_FACILITATOR_GUIDE/Facilitator Guide.docx and .pdf
Participant handout with the key points to take away	04_PARTICIPANT_HANDOUT/Participant Handout.docx and .pdf
Attendance record form, to capture who attended, when, and who facilitated	06_RECORDS/Attendance Record.docx and .pdf
Excel attendance register	06_RECORDS/Attendance Register.xlsx
Multiple-choice theory assessment, to record understanding if your business wants to	05_ASSESSMENT/Theory Assessment.docx and .pdf
Answer key for the assessment	05_ASSESSMENT/Assessment Answer Key.docx and .pdf
Certificate template	06_RECORDS/Certificate Template.docx
Start here: Read Me First, Product Overview, Permitted Use Terms, Version Information	01_START_HERE/ (four PDFs)

What you need to deliver it

- A facilitator such as a supervisor, leading hand or WHS adviser who has read the facilitator guide and knows your site's arrangements for the topic
- A screen or projector, or printed slides or handouts: it works in a crib room, site office or on a video call
- Your own site procedures for the topic, to point to during the session

Questions

Does it cover hazardous area classification and electrical equipment? Only as what the talk is not. Hazardous areas are classified, and equipment for them selected, installed and maintained, by competent people, often licensed electricians with extra training. The talk teaches workers to follow the hazardous area rules, use only approved equipment there and report damage. Add your own hazardous area drawings and rules.

Can we add our own site procedures and photos? Yes. The slides, handout and guide are editable, and the facilitator guide marks the places to add your own procedures, contacts and photos of your workplace.

Do we have to use the assessment? No. It is there if your business wants a record that each worker understood the key points. The attendance record on its own shows who attended and when.

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TOOLBOX TALK

Static Electricity and Combustible Dust Awareness

How static sparks and dust can start fires and explosions, and how to stop them

20–30 minutes · Workers and supervisors who handle flammable liquids, powders, grain, flour, sugar, wood, plastics or metal dusts, and the people who maintain the plant

[Company name] · [Date] · [Facilitator name]

SCD

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What this talk is, and is not

This talk covers

- ✓ Fires and explosions in plain terms
- ✓ Where static builds up
- ✓ Dust that can explode
- ✓ The controls and your part

This talk is not

- ✗ Hazardous area training
- ✗ Electrical work
- ✗ Dangerous goods training
- ✗ Our rules: **[Our hazardous area rules]**

Awareness only. Hazardous area equipment and electrical work need competent, licensed people.

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Sparks, vapours and dust

Fuel, air and a spark. A dust cloud in an enclosed space can explode.

- Static builds up as liquids and powders flow
- Plastic containers, funnels and conveyors
- People: clothing, footwear, moving about
- Dusts that burn: flour, sugar, grain, wood, plastics
- Settled dust can make a second, bigger explosion

A composite example

- A worker tips milk powder from a bag into a hopper through a plastic chute, on a dry day.
- There is a flash inside the hopper. The bonding lead had been unclipped to clean it, and never put back.

If it can be a dust, it can probably burn.

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Duties under health and safety laws

The business must

- Identify fire and explosion risks
- Control ignition sources and dust
- Classify hazardous areas where needed
- Provide the right equipment and training

You must

- Follow the hazardous area rules
- Bond and earth before transfers
- Keep dust down the right way
- Report damage, build-up and sparks

Most health and safety laws give these duties. Check the law where you work (in Australia, WHS or OHS laws).

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The order of controls for static and dust

1. **Elimination** Less flammable materials; no dust where it is not needed
2. **Substitution** Pastes, granules or wet forms instead of fine powders
3. **Isolation** Enclosed systems; dusty work and stores kept apart
4. **Engineering** Bonding, earthing, extraction, approved equipment, venting
5. **Administrative** Housekeeping, permits, hazardous area rules, training
6. **PPE** Anti-static footwear and clothing where required

HIGHER ORDER

Higher order controls remove or control the hazard at the source, or put a barrier between people and the hazard.

LOWER ORDER

Lower order controls rely on people to do a thing or wear a thing, every time, tired, distracted or rushed.

Behaviours are not on the hierarchy, but behaviours and culture decide whether every control on it actually works.

Housekeeping is a fire control, not just tidiness.

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Static Electricity and Combustible Dust Awareness

Participant handout · keep this

A static spark can ignite vapour or dust, and a dust cloud in an enclosed space can explode. Keep this page.

The order of controls

1. Less flammable materials, less dust
2. Pastes, granules or wet forms
3. Enclosed systems, dusty work apart
4. Bonding, earthing, extraction, approved gear
5. Housekeeping, permits, area rules
6. Anti-static gear where required, last

Never

- Blow dust with compressed air
- Use unapproved equipment in hazardous areas

Refuelling

- Engine off, no smoking
- Fill containers on the ground

Before you start

- ☐ Is the bonding and earthing connected before I transfer?
- ☐ Am I using the right container and equipment for this area?
- ☐ Is dust building up on ledges, beams or machines?
- ☐ Am I cleaning with a suitable vacuum, not an air hose or broom?
- ☐ Are there any sparks, flames or hot work nearby?

Report

- Damaged bonding clips, leads and seals
- Dust build-up, sparks, smoke or heat

Who and how

- **[Our dust control procedure]**
- **[Who to report to here]**

Keep the bonds on, the dust down and the sparks away.

This is awareness training. It is not a licence, a ticket, a permit or a competency. It is not hazardous area, electrical or dangerous goods training.

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